

# AMERICAN JOURNAL OF INSANITY

## PRESIDENTIAL ADDRESS.<sup>1</sup>

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GENTLEMEN:

"Chords that vibrate sweetest pleasures,  
Thrill the deepest notes of woe."

So said Burns, and he never had the experience of being honored by the Presidency of this Association for a year, with the one discordant note ever ringing in his ear, that there must, forsooth, be forthcoming a Presidential Address. The Wayside philosopher spoke truly when he said that a genius is one who knows everything without having to learn anything. After consuming most of the year in angling for a suitable theme for such an occasion, I finally concluded to devote what was left of the time, and myself, to the discussion of a subject, always old and always new, "How can we best advance the study of Psychiatry?" This is a broad question, but don't be frightened, as I will make only a few general suggestions and not enter into lengthy details. My first proposition is that our clinical pictures of the varied forms of insanity are too technical and not sufficiently explicit. Though our classifications are so numerous that there is little room for addition, unless we add "the classifying mania of medical authors," as was suggested many years ago by Shepard, they are so imperfect and incomplete that leading alienists publicly differ as to the category in which to place certain groups of symptoms, and occasionally find it necessary to coin new terms to describe them, such as Brain-Storms or Dementia Americana. With all of our complex divisions and subdivisions how often does

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it occur to us in admitting a patient undoubtedly insane, that we are at a loss to know under which classification to place him. Insanity is simply mental unsoundness, and though no one can point out the fine line that separates it from the normal mental condition, with all the latitude of the latter, and it is on that ground that battles will necessarily be fought by men honest in their opinions but viewing it from different standpoints, have we not so complicated the matter as to confuse the layman and the lawyer, and to the public mind reflect discredit on ourselves? The older writers were far more graphic in their clinical pictures and seemed to grasp the subject more clearly. The following few well-penned lines from Maudsley express so fully and comprehensively the whole matter, and incidentally indicate so strongly the responsibility of the insane, that a most exhaustive dissertation would not add one jot to its completeness. Speaking of the patients as seen in an asylum taken collectively he says: "For the most part, they are very unlike. Of the inmates of an asylum, some few might present noticeable peculiarities of appearance, demeanor, and conversation; more would strike the observer by their dull look and listless attitude, as if they had no interest in anything in the heavens above or in the earth beneath, while others would not show, either by their looks or by what they said or did, that they were not as other men are. So much would the casual observer see. The skilled observer would see more, but even he would not find a new world and a new race of beings. He would find man changed, indeed, but not transformed. He would meet, as Esquirol has remarked, with "the same ideas, the same errors, the same passions, the same misfortunes. It is the same world, but in such a house the traits are stronger, the colors more vivid, the shades more marked, the effects more startling, because man is seen in all his nakedness, because he does not dissimulate his thoughts, because he does not conceal his defects, because he lends not to his passions the charm which seduces, nor to his vices the appearances which deceive."

This description differs very materially from the popular idea of a madhouse which is more in the line of Hogarth or Charles Reade. It differs too from the law-made insanity that is framed by statutes and interpreted by courts. Quoting from Maudsley again, on the responsibility of the insane: "Were the observer,



whether casual or skilled, to reside for some length of time in an asylum, and thus make himself practically acquainted with the ways, thoughts, and feelings of its inmates, he would certainly discover how great a mistake it is to suppose, as is often done, that they are always so alienated from themselves and from their kind as not to be influenced by the same motives, as sane persons, in what they do or forbear to do. When an insane person is on his trial for some criminal offence, it is commonly taken for granted by the lawyers that if an ordinary motive for the act, such as anger, revenge, jealousy, or any other passion can be discovered, there is no ground to allege insanity, or, at any rate, no ground to allege exemption from responsibility by reason of insanity. The ideal madman whom the law creates is supposed to act without motives, or from such motives as it enters not into the mind of a sane person to conceive, and if someone who is plainly mad to all the world, acts from an ordinary motive in the perpetration of an offence, he is presumed to have acted sanely and with full capacity of responsibility. No greater mistake could well be made. Much of the success of the modern humane treatment of insanity rests upon the recognition of two principles: first, that the insane have like passions with those who are not insane, and are restrained from doing wrong, and constrained to do right, by the same motives which have the same effect in sane persons; secondly, that these motives are only effective *within limits*, and that beyond these limits they become powerless, the hope of reward being of no avail, and the expectation or infliction of punishment actually provoking more unreason and violence. By the skillful combination of these principles in practice it has come to pass that asylums are now, for the most part, quiet and orderly institutions, instead of being, as in olden times, dens of disorder and violence, and that the curious sightseer, who visits an asylum as he would visit a menagerie, sees nothing extraordinary, and comes away disappointed." If we have accomplished so much by applying in our hospital management this practical result of our observation and experience, why could not so large and influential a body of men as this Association embraces so impress the legal profession as to bring about a modification of their illogical and impractical rulings and definitions and sweep aside all the cumbersome technicalities that so often pervert the ends of justice

instead of aiding them. Then we would be spared the spectacle, too often witnessed, of one insane by common consent and common sense and yet not insane by law, of one insane in one State and sane in another, or sane by the edict of one court and insane by the ruling of another.

As to the special forms of insanity, the poet with his genius has not only anticipated us but surpassed us in vivid description. Centuries before Paresis had been differentiated as a distinct form of insanity Shakespeare saw and grasped its salient features as pictured in *Troilus and Cressida*.

"Things small as nothing, for request's sake only,  
He makes important, possessed he is with greatness,  
And speaks not to himself, but with a pride  
That quarrels at self breath. Imagin'd worth  
Holds in his blood such swoll'n and hot disease,  
That, twixt his mental and his active parts,  
Kingdom'd Achilles in promotion rages,  
And batters down himself. What should I say?  
He is so plaguy proud that the death tokens of it  
Cry 'no recovery.'"

In these few lines not only did he seem to observe the most prominent symptoms, but in the last words, "no recovery," pointed out with wonderful accuracy the prognosis of the disease. The writings of Kipling abound in vivid pen pictures of various forms of mental alienation. The "Phantom Rickshaw" gives a better description of an illusion than any medical book. A type of neurotic subject, a high-strung nervous organization in a weak body, he describes as one "over-engined for his beam" and predicts his breakdown, which did occur with acute aphasia, which is described in the "Conversion of Aurelis McGroggin." The madness of "Private Otheries" cannot be equaled as a description of acute melancholia from nostalgia. Locomotor ataxia, delirium tremens, and many other diseases are dealt with in the same vivid manner, and in a short sketch entitled "To be Filed for Reference," there is a description of the psychological condition of a drunkard that surpasses anything in our medical literature. In the character of McIntosh Jellaludin, a drunken vagabond, he lifts the curtain and gives us an insight into the condition of a type so familiar to all of us, a man of education and refinement who, by dissipation, has become cal-

lous to every natural instinct and though he tramples under foot everything that makes life worth living, health, home, friends, property, and all rational happiness, makes no effort to extricate himself from the mire into which he has fallen. His acquaintance with this character was made when he helped him, too drunk to rise, from the horses and camels of a Sultan's caravansary where the horse traders and best of the blackguards of Central Asia congregate, and in subsequent conversations we get a keen insight into the motives and sensations of one in that condition. "Man," said he, "when you have reached the uttermost depths of degradation little incidents which would vex a higher life are to you of no consequence. Last night my soul was among the gods, but I make no doubt that my bestial body was writhing down here in the garbage. I was drunk, but consider how lightly I am touched. It is nothing to me, less than nothing, for I do not even feel the headache which should be my portion. Now in a higher life, how ghastly would have been my punishment, how bitter my repentance. On the Soul which I have lost and on the Conscience which I have killed I tell you that I cannot feel, I am as the gods, knowing good and evil, but untouched by either. Is this enviable or is it not? I tell you it is good and most enviable. Think of my consolations."

But in addition to the improvement of our clinical descriptions we have other work to do. We are charged by the Neurologists with a lack of accuracy in our diagnosis, and while paranoia, dementia præcox, or Korsakoff's disease do not admit of the conclusive tests by which we would diagnose a locomotor ataxia, a polio myelitis anterior, or a hemiplegia, and while it is not our fault that mental diseases are not associated with these gross disturbances of motion and sensation that can be so easily measured and estimated, there is still room for great improvement in our delicacy of differentiation. But this defect will not be remedied by the accumulation of histories overflowing the office and packed away down in the cellar or some remote store-room and never read again. We must approach it by other and more direct methods. Thanks to the discovery of Robertson in England and the researches of Langdon and his co-laborers in America, the *Bacillus Paralyticus* seems to offer as definite an indication in paresis as the organisms of typhoid fever or diphtheria. Other forms of

insanity may or may not owe their origin to a special organism but there are other indications by which their diagnosis may be rendered more certain and accurate. Has the use of the microscope in our asylums kept pace with the laboratories of the general hospitals? Where can patients be kept more closely and continuously under observation than in large and well-equipped hospitals for the insane? Our opportunities for scientific research are unsurpassed. The recent advances in the differential blood-count are most interesting. Already we can detect by this method anything from an inflammation to an intestinal parasite, but where could one find any extensive tabulation of the differential blood-counts of the insane? Give us a bacteriological discovery in your research among the insane and science stands ready with a most practical weapon to meet it. The opsonic treatment, the most interesting and infatuating of modern therapeutic advancements, only awaits to do our bidding as soon as we pave the way. The quantitative chemical analysis of the urine, when systematically followed, gives a better insight into the physical condition of the patient and offers a better indication for successful treatment than any test that has been applied, and yet there is nothing in our literature that sheds a ray of light on this subject and one must grope in the dark until he can formulate his own standard of health and disease as revealed by this method. A systematic study of the blood-pressure in the insane would give us invaluable information. If the effects of drugs were carefully studied with a sphygmometer the common abuse and misapplication of such remedies as Strychnin, Digitalis, the Nitrates, Supra Renals or Thyroids, and many others would at least be corrected. Where is a better opportunity offered for a study of the action of drugs in health and disease? This would present a most inviting field, for with all our boasted scientific advancement, our therapeutics is simply a pile of rubbish. While a few hobbies are literally ridden to death more rational plans of treatment based on the principles already worked out for us are but scantily utilized. The diet, the digestion, the chemical composition of food stuffs, the metabolism of water, the cause and treatment of constipation not by purgatives but by rational and natural methods, the physiology of sleep and the pathology of insomnia, all need to be especially studied in relation to their application to the insane. Where can we find a

practical application of mental therapy to the needs of our alienated population? I do not refer to hypnotism and kindred influences in the abstract, as they are of but limited value to us, but to that common and subtle force that the most successful alienists and the most successful nurses draw upon so freely in their management of the insane. This is no ideal dream. We should encourage those who have the genius for this work, to a more extensive use of the now wasted opportunities afforded by our State hospitals. This should be entered into, not for the purpose of proving a theory or arousing the applause of the gallery but in the abstract and for the mere love of science. Pasteur, who gave to the world a discovery of such inestimable value, did not start out to develop the germ theory. It came from his interest in crystallization, which seemed then of no practical value. On learning that the naturally-formed crystals of tartaric acid polarized light to the opposite direction of those formed synthetically, he set out, like the true scientist he was, to discover the cause. When he put a little grape juice under his microscope to watch the formation of crystals he found that it was teeming with vital organisms and that it was these agencies that broke down the chemical structure of his material and formed new compounds. To prove this he destroyed the organisms by heat and stopped up his flasks with cotton, and the fluid was indefinitely preserved. Then came the suggestion and easy demonstration that other organisms caused the decomposition of animal matter and it was but a short step for Lister to apply the knowledge thus gained to the practical use of surgery. And thus the germ theory, the brightest star in the galaxy of medicine, sprung full-orbed into its circuit to shed its beneficent light as long as civilization shall endure.

To accomplish such results we must offer inducements to those who possess the genius for this kind of work, and these are rare. In the line of chemical pathology in which I have taken an interest I have found only an average of about one out of a hundred graduates in medicine who showed that particular taste or aptitude without which such labor would be a failure. "*Poeta nascitur non fit.*" And so is the successful laboratory man.

We should, in order to advance this work, establish a special order of business in the program of our annual meetings for the

report of original investigations, and if necessary give prizes out of our growing treasury, or medals of distinction for meritorious work. Then we might change our journal to a monthly and make it a bond of closer union and more ready exchange of views among our members and of more general interest to our whole profession. And lastly, we must educate our chiefs to a better appreciation of laboratory work. It is very discouraging to a young pathologist or an old one either, to have his superior officer ignore his carefully worked-out results, and use remedies or pursue a treatment in direct opposition to his deductions. I am convinced that the dead-house has had its day, and that *præ-mortem*, rather than *post-mortem* studies should engage our attention. The revelations of the autopsy avail us little in the treatment of our patients and the study of the living is far more profitable than the study of the dead. We must get away from the growing of pumpkins, the rearing of pigs, and the planting of potatoes, close up our old text-books, always ten years behind the times, and study the latest clinical diagnosis, physiological and pathological chemistry, bacteriology, toxicology, and metabolism. If we grow tired of these and cannot find solace in Benjamin Rush, Esquirol, or any of these old writers, let us improve our diagnostic acumen by reading Shakespeare, Sherlock Holmes, and Kipling; and lastly, to broaden our philanthropy, ennoble our aims, quicken our sympathies, and gild the edges of the volume of useful knowledge we have accumulated, let us take down from our shelves that priceless little gem, *The Bonnie Briar Bush*, and read and reread the story of Wellum MacClure.

## AFTER-CARE OF THE INSANE.<sup>1</sup>

By WILLIAM MABON, M. D.,

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At the last meeting of this association, the following resolution was unanimously adopted:

WHEREAS, The State Charities Aid Association of New York has recently established a Committee on the After-Care of the Insane, to work in cooperation with the State hospitals for the insane in that State, and to provide temporary assistance, employment and friendly aid and counsel for needy persons discharged from such hospitals as recovered, and

WHEREAS, In the opinion of the American Medico-Psychological Association, it is very desirable that there should be carried on in connection with all hospitals for the insane such a system of after-care, therefore,

*Resolved*, That the American Medico-Psychological Association expresses its gratification at the inauguration of this movement in the State of New York, and its earnest hope that similar work may be undertaken for hospitals for the insane generally.

In offering this resolution, attention was called to the fact that as early as 1893, Dr. Wise, a member of this association, presented a paper on this subject, and in the following year, and again in 1905, Dr. Dewey, also a member of this association, discussed the subject in papers read before the National Conference of Charities. Furthermore, Dr. Henry R. Stedman, as chairman of a committee of the American Neurological Association on the After-Care of the Insane, appointed in 1894, submitted and published a report in 1897. He collected much information of value from those interested in the care and treatment of the insane, particularly from superintendents of State hospitals, which, with the discussion of Dr. Dewey, is worthy at this time to be touched on at length.

My purpose in going into the discussion on the after-care of the insane is due to the fact that, although we have had at various meetings of this association since 1893 numerous references made

<sup>1</sup>Read at the sixty-third annual meeting of the American Medico-Psychological Association, Washington, D. C., May 7, 8, 9, 1907.



to the need of the indigent insane who are discharged as recovered from institutions no steps were taken in this country to inaugurate any systematic plan of after-care, such as has existed in certain European countries for over fifty years, until Miss Louisa Lee Schuyler, who has done so much for the insane, initiated this new branch of philanthropic work through the agency of the State Charities Aid Association of New York.

From the report of Dr. Stedman's committee, I quote as follows:

The work of the committee was begun by issuing a circular letter to certain prominent alienists and neurologists in the States of Massachusetts, New York, and Pennsylvania. This number was afterwards increased in order to ascertain the sentiment of the authorities on the subject in other parts of the country. The letter ran as follows:

At a meeting of the American Neurological Association held at the last Congress of American Physicians and Surgeons in Washington in 1894, a Committee on the After-Care of the Insane, consisting of Drs. H. R. Stedman, Boston; Charles L. Dana, New York; and F. X. Dercum, Philadelphia, was appointed. Its purpose was to investigate and report to the association upon some feasible plan for the aid and supervision during the first month after their return from asylums to public life of discharged pauper insane patients who are recovered or improved.

Asylum physicians often hesitate, you are aware, to set at liberty certain patients whose condition seems to have so far improved as to make it useless to keep them longer under treatment, for fear that thus thrown suddenly upon their own resources, without oversight, or perhaps means of support, they will fall back into the old habits of life which gave rise to their insanity. This applies also to patients who have recovered. These unfortunates are also distrusted and prevented from obtaining employment simply because they have been inmates of an asylum.

These considerations led in France to the founding by Dr. Falret, in 1841, of an association for providing protection, assistance and homes for this class. It was, however, restricted to the Department of the Seine. Its efficient operation has led to the recent establishment throughout that country, under the auspices of the French government, of societies *de patronage* (aid societies) for such discharged patients. Similar societies are in operation in England and Switzerland.

The office of the after-care society is to find for such discharged patients, according to their individual needs, suitable homes and places of employment; to provide gifts of money, clothing or tools; to redeem articles on pawn; to advance payments for rent, etc., and finally to have them under supervision for the first month or two after their discharge.

We are of the opinion that the same need exists in this country, and that the work within our institutions for the insane should be supplemented by the same measures of outdoor relief, on their discharge, that

have proved advantageous elsewhere. As this is an undertaking that has for its object the diminution of insanity by attempting if possible to prevent a relapse, it seems to be called for, both in the interests of humanity, and public economy.

The committee would value your opinion on the subject and respectfully asks replies to the following questions:

1. What are your views as to the practical utility of such an undertaking, generally speaking?

2. In your opinion, should such an association be entirely a private charity, or would the cooperation of the State in this work be practicable?

3. Do you think it probable that benefit to a sufficient number of patients would result from the establishment of convalescent homes as departments of, and at a distance from, our State hospitals for the insane?

This inquiry is suggested by the proved usefulness of convalescent homes as adjuncts to general hospitals, and summer cottages in connection with private institutions for the insane.

4. Will you kindly give a rough estimate of the probable number of patients who have been discharged during the past year from the hospital under your charge, whom you would consider deserving, or likely to be benefited by such a charity, mentioning any special instances that may occur to you?

The result of this inquiry was as follows:

There were fifty replies received, being scarcely half a dozen less than the number of letters sent. Thirty of these were from superintendents of hospitals for the insane, and for the most part, they were comprehensive, and as might be expected from the practical experience of the writers, threw much light on the question. Thirteen were from neurologists, but in view of the apparently unanimous sentiment at the meeting in favor of the general adoption of after-care provision for the insane, it did not seem necessary to extend the inquiry further in this direction.

Of the entire number of correspondents, six were either doubtful of the desirability and practicability of after-care societies for the dependent insane, or were decidedly opposed to such a step. The reasons given by them were that the number of cases likely to be benefited by such aid was too small to make it advisable; that while such a step might be desirable, it was inexpedient; that while excellent in theory, it would probably be found impossible in practice.

The majority expressed, and in many cases in the strongest terms, their decided belief in the great advantages likely to result from properly organized and conducted societies of this kind.

Regarding the auspices under which such associations should be conducted, it was the general opinion that they should by all means be begun under private philanthropy, and so continued until their utility was demonstrated.

Regarding the advisability of establishing State homes for convalescent patients, as part of the general policy of the State toward the insane, there was more diversity of opinion, but at the same time, there was some degree of interest and careful consideration of the subject. Scarcely a member of the Neurological Association wrote in opposition, and of the twenty-nine hospital superintendents and other alienists, nineteen favored it as an accessory provision, five were doubtful and five were opposed. Of four members of lunacy and charity boards, one was in doubt, and the others thought it would be an unnecessary and useless experiment.

To show the careful consideration given to this subject by the committee, I again beg to quote from their report:

As a result, therefore, of their inquiries on the after-care of the insane, your committee reports the following conclusions:

1. It is the general and well-nigh unanimous sentiment of those who are conversant with the needs of the insane in this country that measures should speedily be inaugurated for the temporary relief of discharged recovered, convalescent and improved insane patients of the dependent class, by organized outside societies.

2. As a preliminary step, inquiry should be made of all such patients before they leave the hospital, regarding the mode of life, surroundings and occupations to which they are returning, and proper advice given by the medical officer of the hospital. This is a precautionary measure, as we believe, often neglected in large institutions for the insane.

3. The legal provision, whereby an allowance of money is made in some States to each patient on his discharge, should be adopted by all.

4. Outside assistance can best be provided, we believe, through the medium of an after-care association, which, until its utility can be proven, should be entirely a private undertaking, and should be organized like most existing charitable associations depending upon voluntary subscriptions. Obviously, a large city offers the best field for starting and developing such a system.

5. The special methods of after-care relief by such an association should be those employed by similar organizations in other countries; or a selection of the best methods of each. Such relief, at first at least, should be extended only to the class mentioned, and be understood as temporary, covering only the first month or two of the patient's discharge. The work may best be done by associates or agents appointed for the move-

ment, who shall find suitable homes and situations for all proper cases. There should also be a systematic supervision of the homes by agents for the time specified, or until the patient seems to be in good condition for taking up life and work again. This applies also to patients returning to bad surroundings in their own homes. Reports should be made and records kept of each case.

6. Regarding convalescent homes, there is abundant evidence of the most authoritative kind of the advantages to follow from their establishment, but, in our opinion, the first reform in the order of precedence should be the general recognition of the necessity of the hospital treatment of insanity in its early stage, and the actual adoption of special provision for the acute insane, as an indispensable step in the hospital treatment of public insane patients.

The valuable paper read by Dr. Dewey before the National Conference of Charities in 1905 is worthy of notice. Dr. Dewey said:

It is a subject whose vital importance has not been appreciated in this country, and yet a moment's consideration would show that of the large number of recovered who go out into the world from our insane hospitals, there must be a great proportion for whom the renewal of the struggle for existence is peculiarly difficult, and for whom temporary assistance would make all the difference between a more or less speedy relapse and prolonged and permanent good health.

The objects which suitable assistance and after-care would secure are:

1. The permanent restoration, of many cases that relapse, to self-support instead of public support for many years, or a lifetime.
2. A return to useful activity of many who remain permanently in the hospital who would care for themselves, if they could get a start.

It is evident that convalescence from insanity, as much as from any severe disease, is difficult and needs to be promoted. If, therefore, the value of convalescent homes is recognized in connection with our general hospitals, it certainly should be for our insane hospitals, and for the increasing numbers who under modern enlightened methods of treatment, recover from mental maladies. Not only is there a critical period of weakness for such patients when discharged, but there is also an added difficulty in the fear and prejudice of the public in general, which (however needless and ignorant) nevertheless, has to be reckoned with. In this latter respect, the patients suffer as much, though innocently, as one who has been an inmate of a penal institution, and if aid societies for ex-convicts are commendable, still more so would be any aid extended to one who has regained health in an asylum.

After referring to the work as undertaken in European countries, he continues:

Considering now this work with reference to our own country, it would appear that as yet scarce a beginning has been made, and that the fir

duty is to bring it before the community and to make clear to every one the great value of the work for the recovered and convalescent insane. Work on this line of great use and importance is being done in an unsystematic way constantly. Every superintendent of every hospital for the insane has to constitute himself a "committee of one" to bring suitable conditions for the return of his patients to the world. Even patients who have means and homes and friends can only return after a great deal of work has been done in providing conditions, as so much depends upon environment and employment in preventing a relapse, and often the friends and families show a disposition to keep the patients permanently in the asylum rather than to lend him a helping hand. This is all the more true of public authorities, who have sometimes to be strongly reasoned with to be convinced that the patient is able to leave the hospital, and under suitable conditions will be permanently, or for a long time, a self-supporting citizen.

Dr. Victor Parant of Toulouse, France, in a letter to the *AMERICAN JOURNAL OF INSANITY* for July, 1894, refers to the great work already accomplished for the indigent recovered insane patients in France. Dr. Parant said:

Stated precisely, this question is that "of the protection to be afforded to the indigent insane discharged as recovered from the asylums." In fact, assistance is not the only object, and these societies should not limit themselves to merely saving these persons from want. That is the least important part of their mission. Their object is rather to protect the discharged patients from the manifold causes which may lead to their relapse; from the moment they are brought in contact with the outside world, it is needful to guard them from the troubles that will assail them.

The causes of the relapse of the individual recovered from insanity, are indeed numerous. They may be divided into those pertaining to the disorder, and those due to his social surroundings.

In a large number of cases, a patient had before his attack a trade by which he made his living; a position perhaps, a few effects, some savings and resources; modest, it is true, but enough to enable him to live at home, to possess a certain independence, and be able to meet the needs of his wife and children. The disease seizes him; his wife and children are scattered to seek support; his resources are exhausted, his business is gone, and we know how difficult it often is for a healthy man to re-establish a business. The difficulty is greater for the ex-lunatic, against whom arises obstacles of every kind, due to deeply rooted prejudice. They are distrusted, their recovery is discredited, and the lack of confidence is in some cases only masked by the fear they inspire.

Up to within recent years, only three departments outside of Paris have taken the initiative in forming societies of patronage. But to tell the truth, these societies are not so indispensable in the agricultural districts as in the large cities.

In his letter Dr. Parant states:

That the Minister of the Interior in 1889 recommended that the Superior Council of Public Assistance adopt plans for the creation of temporary asylums and the organization of aid societies. He further recommended that the individuals to be admitted into these institutions should have their freedom during certain hours of the day, thus gradually permitting them to adopt habits of freedom. The Superior Council of Public Assistance, for financial reasons, dismissed, for the time, the idea of temporary asylums, but favored the multiplication of the aid societies, one for each department, and connected with each other by some common bond.

One of the questions that offered itself and should be answered definitely, according to the locality, is that whether the society ought to be independent or not, in connection with the asylum with which it works. The two plans have their advantages and their inconveniences, and are not altogether equally impracticable. According to the first, a society is altogether independent of the management of the asylum; takes its habitation near it and creates a sort of intermediate hospitalization between the confinement of the hospital and the return to freedom; it devotes itself chiefly in finding situations for the convalescents, and after a manner, as they need it, direct protection.

In the other system, the society is intimately connected with the administration of the asylum, which continues after a patient is outside and at a distance. It is the relief at the home that predominates in this system, as the convalescents return to their residences, the society exercises its control, and gives its assistance through the medium of trustworthy agents. The two systems correspond to different needs, and we call the one the system of large towns, and the other that of the rural districts.

The general interest felt in after-care for the insane has extended to Japan, and in the report of the Psychiatric Clinic of Tokio University, it is stated that the wives of the alienists in the city and physicians in the community organized in 1902 the Tokio Ladies' Aid Society for the Insane.

This organization is entirely independent of any other charitable body. It seeks to take care of insane patients and their families, and to attract public attention to the subject. From a translation which Dr. Matsubara has kindly made for me, I learn that it is doing the following work:

1. For the purpose of helping and entertaining the patients, the society furnishes the State and private insane hospitals with materials for special occupations which are not provided in most hospitals for the insane. (Artificial flower making and other



fine work.) It sells the articles thus made and pays the patients for them.

If individuals outside the institution want suits or other articles made, they send the materials to the patients through the society and pay for it. The money thus earned is saved by the superintendent of the hospital and returned to the patients when they are discharged. The patients also are permitted to spend a certain proportion of it during their stay in the hospital for newspapers, magazines and delicacies.

2. They arrange for parties of twenty patients each, to be accompanied by a physician and nurses, to visit the green-houses, zoological gardens, parks and music halls, the institutions providing the refreshments and the other expenses being met by the society.

3. It provides entertainments at the institution at its own expense, in addition to those furnished by the hospital.

4. Music and games are contributed.

5. It pays part of the expenses of needy patients in private institutions for the insane.

6. The agents of the society visit and give advice to the patients, and secure when needed, positions for those discharged as recovered or improved from the hospital.

7. Their agents visit and give financial aid to the families of patients who are in need.

8. They recommend to the out-patient department of the institution those who are in need of medical treatment for the early symptoms of insanity.

9. They arrange for public lectures to which prominent speakers are invited for the purpose of enlightening the community in matters of mental hygiene.

10. The society publishes a monthly magazine which is distributed among the public.

11. They also publish and sell souvenir postal cards.

12. They place large contribution boxes at the principal railroad stations.

The income of the society is as follows:

1. From dues of members, which are placed at one to two dollars.



2. From contributions from members in addition to their regular dues.

3. Contributions from the public.

4. From a garden party given in the spring and a concert given in the autumn, they clear from one to two thousand dollars each.

That the State Charities Aid Association of New York has a sub-committee on the After-Care of the Insane, of whose work I am able to give some account, is due entirely to the interest taken in that line of philanthropic work by Miss Louisa Lee Schuyler. While the needs of this work were being discussed at National Conferences of Charities, and at the meetings of the Neurological and American Medico-Psychological Associations, Miss Schuyler was quietly investigating the successful continuance of the work in England, and getting ready to interest the public of New York State as soon as she believed the matter was ripe.

At a conference of the State Hospital Superintendents with the State Commission in Lunacy on November 18, 1905, Miss Schuyler reported the investigation she had made and suggested a plan for practical after-care work in the State of New York. She said:

For many years I have been interested in the subject of after-care for the insane. While in England, last summer, I visited the London office of the Society for After-Care of Poor Persons Discharged Recovered from Insane Asylums—a society established twenty-five years ago, which does most excellent work. Its methods, in brief, are as follows: The secretary of the society visits the asylums and works in close cooperation with the medical superintendents, and is notified by them when there are patients to be discharged cured, who are poor, and who have no homes nor friends to go to. For such cases, boarding places (in the country for the women and in the city for the men) have been arranged for. These are small "cottage homes" or, as we would call them, boarding houses where a man and his wife are willing to board these after-care cases. There are now about twelve of these cottage homes in different parts of England. The board of both men and women is paid for by the society, for, from one to six weeks usually until employment is found for them. The society keeps in communication with them often for years, until they are absorbed into the community as self-supporting, self-respecting men and women. Conditions in England differ from those we have here, but the need of a helping hand to be extended to poor and friendless convalescents and those discharged cured, upon leaving our State hospitals, is just as much needed here as there, and this is what we ought to do. We

need no new society because we have the machinery ready at hand; nor do we need to establish a new institution, or to own buildings, or incur large expense.

I have thought that, with the concurrence of the medical superintendents, of two or three members of the re-established boards of managers of our State hospitals, and of some of the local visitors of the State Charities Aid Association—those living in the respective State hospital districts—that, with this combination, a working joint committee to provide after-care might be formed for each State hospital. The experiment might be tried first on a small scale with one State hospital to see how it would work.

Being deeply impressed with the suggestions made by Miss Schuyler, it was decided that the subject be presented in the form of a paper at a later conference, and, therefore, at the next conference of the State Commission in Lunacy with the managers and superintendents of the State hospitals, held in Albany, January 30, 1906, Dr. Adolf Meyer, Director of the Pathological Institute of the New York State hospitals, read a paper on "The Problem of After-Care and Organization of Societies for the Prophylaxis of Mental Disorders." Among other things, Dr. Meyer said:

For a successful movement, it is necessary that there should be a harmonious cooperation between all the elements concerned, and that everything should be done to help the hospital physicians who are most intimately confronted with the great problem.

In large institutions a great deal has been done to give a more and more concrete form to the interests of the physicians in the families and environments of the patients. The demand of a thorough study of each case has led quite naturally to an attempt to visit the home of the patient, or have it visited by some one, and the results have been decidedly interesting. Contrary to what was expected, the non-professional visitor, who kindly cooperated with us, is received with uniform cordiality and confidence. The people appear just as they are, free from the constraint of the hospital; the environment can be sized up more adequately, and the family's desire to be politic, which so often vitiates the account to the hospital physician, is reduced considerably. A link is established of as much benefit to the patient as to the friends, especially where the visitor is able to set the patient too, and to bring reports, relieve doubts, fears and suspicions, and to clear up misunderstandings.

It is quite natural that in mental disorders, and in the period of convalescence and of danger of relapse, we should regulate the mental diet, the environment, in addition to what we may be able to do for the organism. In all chronic diseases, the physician realizes that to be successful with the patient, one must have a chance to obtain the cooperation of the family; to get the patient away altogether is of course a convenient thing in order

to give a good start, but what about the return to the conditions that have led to the failure before? The importance of this point is plain enough where we deal with alcoholism as the chief cause, as is the case in at least 20 per cent of our patients; there we deal with a social evil which we all find extremely difficult to handle, whether we have to deal with it from the point of view of criminal issues or police regulations, or the health and prospects of entire families or actual alcoholic insanity. The hospital can enforce abstinence during the patient's residence; what will become of the patient on discharge is generally left to chance. Hospitals for the insane ought to be in some way in close contact with all organizations that militate against alcoholism, so that patients might be referred to them since we know that company is the most important factor in keeping newly formed habits from yielding again to old tendencies. The same holds for many habits, especially the inability of many individuals to get adequate forms of recreation and enjoyment, which might replace abnormal cravings or pre-occupations. For this we should have contact with clubs and with movements by no means exclusively looking out for persons who have been insane, nor even bodies that try especially to prevent insanity, but movements which bring together a wholesome environment for any individual in need of it. Many patients can be recommended to churches. In large cities we might appeal to settlements; in towns we might obtain means to open schoolhouses to public utility, to add to them a gymnasium, or perhaps a bowling alley. Even patients in tolerably satisfactory home surroundings profit from a few casual visits by one who has gained their respect and gratitude during the illness; a timely advice and the mere feeling of responsibility carried by the realization that somebody takes an interest has proven to have a decided influence in pulling former patients out of discontent, and the healthy members of the family out of a harmful attitude of suspicion of relapse and lack of confidence in the patient.

The following resolutions were adopted by unanimous vote of the conference:

*"Resolved*, That in the opinion of this Conference, it is desirable that there shall be established in this State, through private philanthropy, a system for providing temporary assistance and friendly aid and counsel for needy persons discharged, recovered, from State hospitals for the insane, otherwise known as 'After-Care for the Insane.'

*"Resolved*, That the State Charities Aid Association be requested, by this Conference, to organize a system of after-care for the insane in this State, and to put it into practical operation.

*"Resolved*, That the representatives of the State Commission in Lunacy and the managers and superintendents of the State hospitals for the insane, here present, hereby pledge to the State Charities Aid Association their earnest and hearty cooperation in the establishment and maintenance of a system of after-care for the insane in this State."

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Immediately after this conference the committee on the insane of the State Charities Aid Association appointed a sub-committee on the after-care of the insane to carry into effect the above resolutions; and on the 9th of February, 1906, at a meeting of the Board of Managers of the State Charities Aid Association the first report of the sub-committee was presented and approved. The report outlines the plan of organization as follows:

We propose that after-care committees for each State hospital shall be appointed by the State Charities Aid Association, which shall work under the immediate control and direction of the "sub-committee on after-care of the insane" of our standing committee on the insane. These hospital district committees shall consist of the present visitors of the association to the State hospitals, or such of them as may be willing to serve, with others added as the need may arise, all residents of their respective hospital districts; and with them as *ex-officio members* of the committee, two or more managers to be appointed by each hospital board, and the superintendent of the hospital.

The chairman and secretaries of the committee are to be members of the State Charities Aid Association. The committees are to receive the names of their respective hospitals, viz., Manhattan After-Care Committee of the State Charities Aid Association; Willard After-Care Committee, etc.

In regard to expenses. Fortunately, there is a humane provision on the statute books of our State, which makes it mandatory for superintendents of hospitals to supply to each patient leaving the hospital, who may require it, clothing suitable to the season, and money, not to exceed twenty-five dollars, for travelling and other necessary expenses until he can reach his home or find employment.

That section of the Insanity Law reads as follows:

"Sec. 75. *Clothing and money to be furnished discharged patients.*—No patient shall be discharged from a State hospital without suitable clothing adapted to the season in which he is discharged; and, if it cannot be otherwise obtained, the steward shall, upon the order of the superintendent, furnish the same, and money not exceeding twenty-five dollars, to defray his necessary expenses until he can reach his relatives or friends, or find employment to earn a subsistence."

It is expected that money advanced by the committee for the temporary assistance of needy discharged patients, as defined by the statute, will be repaid by the hospitals upon the presentation of proper vouchers. For our part, we have offered to pay the entire administrative expenses; more especially for the employment of an agent, whose duties, under our direction, will be to help local committees requiring assistance in different parts of the State. This means a salary, travelling and other after-care expenses. For these purposes, and for the assistance, if needed, of patients beyond the

twenty-five dollars allowed by the State, we must depend upon voluntary contributions.

On April 15, 1906, the "Manhattan After-Care Committee of the State Charities Aid Association" was appointed, this being the first hospital district after-care committee to be organized in this country. Shortly afterwards an agent trained and experienced in work among the poor in their homes, Miss E. H. Horton, was engaged as after-care agent of the association, and was immediately assigned to the duty of assisting the Manhattan After-Care Committee.

After-care committees were subsequently appointed as follows: For the Willard State Hospital, April 10, 1906; for the Hudson River State Hospital, May 22, 1906; for the Binghamton State Hospital, November 8, 1906; for the Central Islip State Hospital, February 5, 1907. These committees have done very valuable work for the patients discharged, recovered, from their respective State hospitals and have presented interesting reports to the sub-committee.

A few of the individual cases assisted by the after-care committees are given to illustrate the aims, methods and results of the work:

A. B.—A middle-aged woman, discharged from the hospital May 14, 1906. She was too weak to work, and the after-care agent arranged to send her to the country to board on a farm. While there she gained steadily and upon her return, a situation was found for her.

C. D.—While in the hospital her husband died, and her only child, a girl of twelve years, had to be cared for by strangers. The mother worried about the child, and the ward physician asked the agent to see the child and report. She found her well and happy, and the man and wife, with whom the child was, were much attached to the little girl. The agent found a place with this family, at low wages, for the mother upon her discharge from the hospital. She has visited her several times, and finds her very happily settled with her child.

E. F.—Discharged September 8, 1906. Agent visited her relatives several times, but found them unable to assist her in any way. She finally found a place for her as ward helper in Bellevue Hospital, purchasing for her the necessary clothing. When calling to see her two weeks later, learned from the nurse that her work was satisfactory, and that she was doing well.

G. H.—A married man, about 40 years old, who had broken down from overwork as bookkeeper in a large firm. After a few months at the hospital, he completely recovered, and a position was found for him in a bank,



where he had formerly worked, and where he was given employment of a less responsible and exacting nature, but at a very good salary.

The plan of cooperation between the Committee on After-Care of the State Charities Aid Association and the Manhattan State Hospital is as follows:

- 1 The hospital is to notify the agent of the committee of cases likely to be discharged, preferably from a week to a month before the patient is allowed to leave the hospital, and to furnish the committee at that time with a summary of such facts in connection with the history of each patient recommended for supervision as will be of assistance in the investigation of the case. This information is to include the name, age, nativity, creed, occupation and civil condition, date of admission, previous admissions, form of insanity, character, the habits and tendencies, previous history, and circumstances of the patient, so far as known; also the names and addresses of the relatives and friends; the character and condition of the home, and the number in the family, so far as known.

2. The hospital is to notify the committee of the parole or final discharge of every patient within forty-eight hours of such discharge, and to furnish at that time such particulars regarding the case as were not previously furnished.

3. The hospital is to notify the committee of information received of the possibility of a former patient relapsing, with a request for such assistance or advice as may be helpful in preventing a relapse on the part of such former patients when they are on parole or have been discharged.

4. The After-Care Committee on its part undertakes to visit through its members, or its agent, the homes and friends of patients about to be discharged and to report immediately to the hospital such facts and recommendations as may be helpful to the hospital when making a discharge as to when and to whom the patient should be discharged.

5. The committee undertakes to visit in their homes all paroled patients, who in the opinion of the hospital, may need supervision, and to report to the hospital before the expiration of their parole such facts as may be of service to the hospital. The committee also places at the disposal of the hospital its services to investigate the circumstances of former patients, who have been discharged recovered, but who may be considered by the

hospital authorities to be in danger of a relapse, and to require assistance and advice to maintain their physical and mental health.

Aside from the relations existing between the institution and the committee, other assistance can be rendered by the physicians of the hospital to patients paroled, or discharged, who may need medical advice, and to meet this need there was prepared by me, as the medical superintendent of the Manhattan State Hospital, the following circular addressed to the friends of patients:

*The superintendent begs leave to offer the following advice for the benefit of the patient who is leaving the hospital, with the view of preventing, if possible, a return of the mental attack:*

*Those conditions and surroundings which operated in bringing about the first attack should be avoided, and, as far as possible, remedied. Where the surroundings were objectionable a change should be made in residence. Bad associates should by all means be avoided. In order to effectually change the surroundings and associates, it is frequently necessary to move to another section of the city, or even leave town and take up life in another community.*

*Oftentimes it is embarrassing to the patient to have the subject of the former residence in the hospital discussed. See that the patient avoids all forms of dissipation; endeavor to keep the patient occupied and establish regular hours for meals and for retiring. During the summer months, where it is possible, it is well for the patient to go to the country for a short time at least. The home life should be made as pleasant as possible, and friends should endeavor to encourage and help in every way.*

*Inasmuch as it is the practice of this institution to parole for a period of thirty days before discharging a patient, it should be considered a duty on the part of relatives to encourage the patient to return to the hospital once a week during the parole period to consult with his former ward physician in reference to the progress of his convalescence, and to seek from him advice as to the best mode of living. The patient, at the same time, should have instilled into his mind that the idea of these regular visits to his physician is not for the purpose of his possible return to the institution, but rather to prevent a recurrence of his disease, and hence the necessity for a recommitment.*

*Whenever a paroled patient declines to return to the institution, it is well to keep him under careful observation, and in case of any illness, or a suspicious symptom of his former malady, the family physician should be immediately consulted, and then if advice is desired, a letter addressed to the superintendent will receive a prompt answer.*

The State Charities Aid Association reports that the expenses of the work thus far average about one hundred dollars per month only, this being due to the fact that the association is able to avail itself of the many existing charities in New York City, and their willingness to cooperate with the after-care agency.

In conversation with Miss Mary Vida Clark, secretary of the sub-committee on after-care, I learned that from the point of view of the State Charities Aid Association, the experiment was working well. The committee had but little experience in the line of preventive work, but it believed that here also much might be done. One case was referred to which had been called to the attention of the committee last summer by one of the ward physicians. By sending this patient to the country, it was thought that a breakdown had probably been prevented.

It is the opinion of the committee that, in undertaking after-care work in other States, representative, public-spirited citizens should be appealed to, who already have experience in charitable work. In a city, work of this kind could probably be best undertaken by a committee of some existing charitable organization. In smaller cities, a combination might be formed with some of the existing voluntary relief societies and thus ensure more efficient work than by accepting volunteer service from individuals.

I recently asked several of my assistants for their conclusions as to the usefulness and shortcomings of the After-Care Committee, and Dr. Evarts, the first assistant physician, reported that the agent had usually visited the hospital once a week to see and become acquainted with patients about to be discharged. She was uniformly well received by the patients, even after their parole or discharge from the hospital, also by their friends. Through the work of this committee, the hospital physicians have in several instances visited patients in their homes and given counsel as to the best course to be pursued. A number of patients for whom positions have been found belong to the alcoholic class, who

usually make fair recoveries. As a class, however, they are not fully appreciative of the work of the committee, and some of them soon returned to their old habits. In several instances, the committee has found a boarding place for patients who were perhaps not quite equal to engaging in independent work, and have maintained them in the country for several weeks at a time. In one instance, Dr. Evarts distinctly recalls a former patient who was provided with a sewing machine, so that she might be able to support herself. The committee advanced the money for this machine, allowing the woman to make small payments at intervals to reimburse the committee, so that the burden of paying the debt was light.

Our experience is that the work of the After-Care Committee has been helpful to a large number of patients and also to the hospital. Were it not for their work, many patients would necessarily have been discharged to the care of the Department of Public Charities, as was formerly done. The circumstances of their going out into the world are far better under the present arrangement than they were at any time previous when the Department of Public Charities took charge of them. Under the previous conditions, they were either sent to the almshouse, or allowed to go directly on to the streets of the city to seek friends or work without assistance from any one, except such as might have been provided by the hospital. At the present time they are assisted and protected when they leave the hospital. During the past year, since the practical work of the After-Care Committee began, a number of patients have been substantially assisted by the committee. These cases were classified as follows:

Imbecility with maniacal attack, manic depressive insanity, alcoholic psychosis, dementia præcox, acute depressive hallucinosis, depressions not sufficiently differentiated, manic depressive insanity with constitutional inferiority, paranoic condition and drug psychosis.

Of these cases, 18 left the hospital recovered and 5 improved. Of this number, one case of imbecility with maniacal attack, has been re-admitted during the year.

An analysis of the views expressed in the report of Dr. Stedman, in the papers of Dr. Dewey and Dr. Meyer, in the letter of

Dr. Parant, and in the remarks of Miss Schuyler, shows clearly the necessity for establishing after-care committees.

The opinions of all who have contributed to the literature of the subject indicate very clearly that the greater field for after-care work is in cities and large towns, and less in rural districts.

Some very useful methods have been outlined in this discussion, but a suggestion made by a member of the staff of the Manhattan State Hospital seems particularly applicable to cases in large cities. It is that members of the staff of the State hospital for the insane should be connected with several of the large dispensaries, so that they could easily keep in touch with such former patients who had been discharged recovered, and with a great many other cases in which there was a prospect or necessity for special treatment.

The establishment of the After-Care Association in New York City has tended to increase the confidence in the administration of the metropolitan State hospitals. Relatives of patients, as a rule, welcome visits from outside parties familiar with the work, and yet not part of the hospital organization. They feel in that way that they get an unbiased report on the standard of care maintained in the hospital. By means of this association the ward physician oftentimes gains the confidence of a patient who has been paroled or discharged, and he is then in a position to point out the dangers of illness, privation and overwork, and to enlighten him as to premonitory symptoms which, unless relieved, might lead to a relapse. The patient having these symptoms should be encouraged to come and see his ward physician, talk over the case with him, take his advice, and such medical treatment as in the physician's opinion was called for.

During the past year, the members of the After-Care Committee of the Manhattan State Hospital have had under observation 258 patients; they have made 821 visits; assisted substantially 26 patients; and have had 19 under prolonged observation.

The physicians in the State hospitals who have cooperated with the State Charities Aid Association in the work of the after-care of the insane see in this new branch of philanthropy a promise of valuable results in the prophylaxis of the disease which afflicts more than 27,000 persons in New York State alone.



If this movement affords such a prospect of relief in one State, why should it not be undertaken in all States? The organizations may differ, but the work to be accomplished is the same. The fact that it has been continued so long and successfully in France, Switzerland, England, and other countries of Europe, and that it has been adopted by the Japanese, should be an incentive to our taking it up with vigor, and pushing the work to its utmost.





## AFTER-CARE OF THE INSANE.<sup>1</sup>

By ROBERT M. ELLIOTT, M. D.,

*Superintendent Willard State Hospital, New York.*

*Mr. President, Ladies, and Gentlemen:* The Willard After-care Committee was organized in May of last year. It is composed of eleven members, three of whom are also members of the hospital board of managers and the superintendent is a member *ex officio*. The hospital district embraces nine counties in the west central part of New York. Auburn, a city of thirty-two thousand, is the largest city, and Geneva, Ithaca, Corning, and Hornell come next, with from twelve to fourteen thousand each. The total population of the nine counties is something like 385,600, and the annual admissions to Willard average about 220. The residences of the members of the committee are so situated as to cover the district with the least inconvenience to themselves, and in or near the larger centers. When a patient is paroled or discharged who is considered in need of special after attention on the part of the committee, a description of the case and such other information as may be of value is submitted to the secretary, who in turn notifies the member residing nearest the patient's home. The committee meets at the hospital semi-annually. During the year it has been in existence, twenty cases—fifteen women and five men—were referred to the secretary; the total number discharged from the hospital during the same period being 134. Three of the cases—two women and one man—had no home or friends and situations were provided for them; these are doing well at the present time. The others had relatives and homes, but the circumstances and surroundings were such that we believed advice and moral support on the part of a member of the committee would prove beneficial; two of these, however—one an alcoholic and the other a manic case—were returned to the hospital within the year. It is our practice at the hospital to

<sup>1</sup> Read at the sixty-third annual meeting of the American Medico-Psychological Association, Washington, D. C., May 7, 8, 9, 1907.

have all patients whose discharge is contemplated presented at a staff meeting (of the resident medical officers), where they are questioned about their family relations, circumstances, and plans for the future in the event of their leaving the hospital. Advantage is taken of the legal provision whereby an allowance of money not to exceed twenty-five dollars may be made in such cases as require it. This is in brief an account of the progress made with respect to after-care at Willard. It is noteworthy that the two localities to be first provided with an after-care system in this country represent the two extremes of environment, the one (the Borough of Manhattan, New York City), pre-eminently metropolitan, with a population of over 2,350,000, the other essentially rural and scattered, with a population of approximately 386,000. There is no paid official connected with the system at Willard as is the case in New York City, and so far, I believe, it has not been necessary to seek financial assistance from the State Charities Aid Association, under whose auspices the committee was created. In a district like Willard, where there is comparatively little to do in the way of merely handing out money to needy and friendless patients and obtaining employment for them, the committee can work on broader lines than is possible in a great city, and some of the members are anxious for a larger number of cases, believing that sympathy and a friendly hand may, in themselves, do good. Medical officers have never been able to keep track of discharged patients. In my experience the most that has been done is to ask relatives to report on the patient's condition at the end of the parole period which, in our State, is thirty days. For years in our annual reports we have called attention to the importance of moral treatment in insanity, which embraces employment, recreation and cheerful company and surroundings; we also give a list of alleged moral causes which include adverse conditions such as family bereavement, business troubles, mental strain and overwork, religious excitement, and love affairs. In recent years there has been a tendency in some quarters to question the rôle played by purely mental or moral influences, and attach more importance to bodily or physical conditions, but I believe that insanity is frequently precipitated by mental causes. Admitting this, and the necessity of moral

treatment during an attack, their importance with regard to after-care will be apparent.

The question of what the scope of such work should be is one on which opinions differ. In England and France the function of after-care societies is to find for discharged patients in needy circumstances suitable homes and employment; to provide gifts of money, clothing or tools; to redeem articles in pawn; to advance payment for rent, etc., according to their individual needs and to keep them under supervision for a month or two after their discharge. Comparisons with regard to poverty and social conditions have been made between European countries and America, and it has been held by some that there is not the need for such work on this side of the Atlantic. We have undoubtedly less pauperism and there is not the host of unemployed here which is to be found across the water, but there is nevertheless considerable poverty, and to be convinced of this one need only glance at the transactions of the various philanthropic and charitable organizations apart from our purely public charities. The insanity law of New York State provides that the father, mother, husband, wife, and children of an insane person if of sufficient ability, shall assume the costs of support of inmates of State hospitals, in whole or in part. The regular reimbursing rate is \$3.50 per week, but in not more than 8 per cent of the 26,000 insane in the thirteen State institutions is anything being contributed toward their maintenance. There is an agent in each district whose business it is to investigate the family circumstances, so that compliance with the law may be enforced. At the Manhattan State Hospital, Ward's Island, which takes patients from New York City exclusively, the proportion of reimbursing cases is less than half of 1 per cent, which indicates a greater prevalence of poverty among the insane than anywhere else in the State. An interesting fact in connection with this is that 69 per cent of the insane committed from New York City are of foreign birth, the proportion for the entire State being about 48 per cent. According to the records of the Immigration Department, 34 per cent of all immigrants who arrived at the port of New York last year settled in New York State, and the vast majority of these remained in New York City. This has an important bearing on the subject under dis-

cussion. In a large number of cases it is the bread-winner who is committed, who, before the attack began, was able to maintain in a modest way his wife and children, but poverty follows in the wake of the calamity, the home is frequently broken up, and should the patient be fortunate enough to recover he is obliged to re-establish himself in the community under the most adverse circumstances. Stress, about which so much has been said in recent years as a factor in the production of mental diseases, is often intensified. There is also public prejudice to contend with, although I do not believe that this exists to the extent in America that it does in England and other European countries. Mrs. Milo M. Acker, a member of the Willard Board of Managers and the After-care Committee, has been deeply interested in this subject and last year took occasion to obtain the sentiment of nine representative housekeepers and three business men who owned mills and employed a large number of women and girls. Four of the nine housekeepers said they would be willing to take into their homes as domestics, persons discharged from hospitals who were said to be cured by the physicians; two said they would employ such persons after a lapse of six months; two said they would not have them under any circumstances and one was non-committal. Of the three mill owners one said that he would not employ anyone who had been insane under any condition nor after any lapse of time; two were broad-minded enough to say that they would take directly into their employ from the State hospitals any women whom the physicians guaranteed as cured, and while they did not think it would be wise for their companion workers to know that they had been insane, they could promise them, if they needed it, their sympathy and that of their fellow operatives. On the whole this was considered encouraging from the standpoint of after-care.

Dr. Adolf Meyer, in a paper which he read at a meeting of hospital superintendents and managers with the New York State Commission in Lunacy a year ago, dealt at some length with the necessity for improving social conditions which so often precipitate mental breakdown, such as the correction of family habits, the providing of amusements and recreation and all those things which pertain to social and mental hygiene, a work which he thinks after-care associations can interest themselves in with

profit, which involves not only recurrent insanity, but the entire question of prophylaxis before there has been an attack. This is indeed a great problem and success in any degree can only be attained by a process of evolution. Conditions vary in different communities; in cities the facilities for entertainment and recreation are very different from those of rural districts, while it must be admitted that residents of the latter have a greater measure of fresh air and light, also better food. We are all familiar with the fact that certain types of mental disease are more frequent in metropolitan districts than in the country; compare, for instance, general paralysis and alcoholic psychoses with melancholia; the former are much more prevalent in cities, while a considerably higher percentage of the latter is found in rural districts.

The influence of environment and training upon young adults of the poor class is strikingly illustrated at the "George Junior Republic," an institution situated at Freeville, in Central New York, founded by William R. George, in 1895. The age for admission is fourteen years, and residence at the institution may continue until the age of twenty-one. The average period of residence thus far is about three years and a half, and there have been over 600 citizens. Of this number only one boy developed insanity; he was eighteen years old and on admission to Willard had symptoms resembling dementia præcox, but improved to such an extent that he was able to return to the Republic in the course of six months. Mr. George informs me that in many instances there is a history of insanity in the family, usually the father or mother. The "citizens" are practically self-governing and the method is based on the Constitution and the laws of the United States and New York State. It is a miniature village identical with any other village, the only difference being the age of its citizens; the voting age is reached at fourteen instead of twenty-one. They elect from their own number a president, judiciary, and various officials comprising the government. There is a school conducted by paid teachers, and a number of industries, such as a bakery, laundry, carpenter shop, furniture shop, garden and a farm of three hundred acres. They have their own currency and each citizen is obliged to support himself in some way. There is also a good library, gymnasium,



and chapel. Nothing without labor is the key-note of life in the Republic; there is no opportunity for moping. The subsequent careers of the ex-citizens have been followed in almost all instances and the results are found to be most gratifying. None of them have been committed as insane. Most of these boys and girls come from the worst surroundings and ancestry, with criminal and immoral tendencies, and it would seem that many of them must have a predisposition to mental disease, particularly dementia præcox. It appears to me that the mental effects of the life and training at this institution are of much interest to alienists, and I have thought it appropriate to refer to it here.

The Empire State, containing, as it does, approximately one-tenth of the population of the United States, and having the chief port of entry for immigrants, affords a good field for starting and developing a system of after-care. To insure its success there must be cordial co-operation between the hospital physicians and the committees, and the hospital authorities in New York pledged this in a resolution adopted at a conference of superintendents with the Lunacy Commission held in January, 1906, when Miss Louise L. Schuyler, representing the State Charities Aid Association, undertook to organize an after-care department. The real requirements to meet fully the object in view can only be determined by experience. The committees should be able to do something to enlighten the public and disabuse the minds of many who, in their ignorance and superstition, still labor under the same prejudices toward the insane and institutions for the insane as their forefathers did generations ago, which is perhaps not surprising when we think of the lack of insight and interest regarding lunacy matters displayed by the average practitioner of medicine. Moreover, the progress made in medicine and surgery during the last twenty years has been applied in the management of our hospitals; the nurses are better trained than formerly, and the standard of care generally is higher. All this has conduced to the betterment of our patients, and the deteriorating process may have been checked in many instances, but it is an open question whether there has been any actual increase in the recovery rate. This, combined with the apparent increase of insanity, brings out more strongly than ever the need and importance of prophylactic measures.



## THE TRIAL OF THE INSANE FOR CRIME: A HISTORICAL RETROSPECT.

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The history of the medical jurisprudence of insanity has not yet found a pen worthy of so great a subject, although able pens have essayed it, especially that of Morel.<sup>1</sup> It has numerous aspects, any one of which would serve in this age of research for a copious monograph. The subject indeed reaches far back into antiquity, and Roman law especially dealt, often wisely and well, with all the various questions that concern the insane. From so vast a field the mere essayist may well turn in despair.<sup>2</sup>

The object in this paper is merely to present some rather curious matters concerning the evolution of trial by jury in English law, and especially as these matters affected the insane. It is the trial of the insane for crime in olden times that will occupy us; for this is a subject fraught with great interest, and one that has a bearing on what we see almost daily in our midst; that is, the defence of insanity in our criminal courts. And yet so large is even this limited subject, that in these pages I shall hope merely to trace out the very gradual growth of the right of an insane man, on trial for his life in an English court, to be represented by counsel, and even to have his witnesses called and sworn.

It doubtless seems now such an inalienable right for an accused man, on trial for his life, to have counsel, and to call his witnesses, that probably few persons are aware that these rights have only been acquired after centuries of struggle, and only within comparatively recent years; and that in former times the

<sup>1</sup> *Traité de la Médecine Légale des Aliénés*, Paris, 1866.

<sup>2</sup> The *Institutes* of Justinian contain many provisions for the insane, and these were copied almost verbatim by Bracton in his *De Legibus et Consuetudinibus Anglia*, about 1265, and thus found their way into the English common law.

spectacle was sometimes displayed in the English courts of an insane man being called on to make his own defence before a jury, and to prove his own insanity, without the aid of counsel or of sworn witnesses.

According to the old common law of England a man on trial for either treason or felony was not allowed counsel; neither was he allowed to call witnesses. In this latter respect the common law followed the civil law, or law of the Roman Empire. Sir Fitzjames Stephen<sup>1</sup> says that the right to call witnesses under the Roman law was doubtful, and that even trial by jury in its original form dispensed with witnesses altogether; that under the civil law as administered all over the continent down to recent times, the prosecutor only could call witnesses; and that in England the prisoner's right to call witnesses upon equal terms with the Crown was not established till the reign of Queene Anne. On this subject Blackstone<sup>2</sup> says that as counsel was not allowed to any prisoner accused of a capital crime, so neither should he be suffered to exculpate himself by the testimony of any witnesses; and it is to the credit of "Bloody Mary" that on one occasion she instructed her chief justice that the prisoner should have his witnesses the same as the crown. Nevertheless when the courts at last grew ashamed of the old law, and admitted witnesses for the defence, it was only on condition that they be not sworn; hence their testimony was given less credit than the witnesses for the crown, a fact which brought a protest from Coke,<sup>3</sup> who said there was not a *scintilla juris* in favor of such tyranny; and at length by the statutes 7 Will. III c. 3 and 1 Ann. St. 2 c. 9, it was allowed that in all cases of treason and felony all witnesses *for* the prisoner should be examined upon oath in like manner as the witnesses *against* him.

The effect of this old common law on the trials of the insane must have been disastrous. In fact, the records of the English courts before the reign of George I, so far as I can find, are almost barren of well reported instances of such trials. This could not have been because there were no such instances. Insane men must have come to trial, for the insane have been with us always, but the knowledge of insanity was so imperfect, that

<sup>1</sup> History of the Criminal Law of England, Vol. I, p. 46.

<sup>2</sup> 4 Com. 359.

<sup>3</sup> 3 Inst. 79.

without the right to call witnesses and to have counsel, the lunatic on trial for his life must have had such a poor show that he usually left not even a trace in the annals of early English jurisprudence. His trial indeed could have been little better than a farce. Short indeed must have been his shrift. Let the modern expert, who consumes whole days on the witness stand in full view of an admiring public, pause and reflect on the comparatively recent progress in civilization which has called him into existence.

The right of an accused man, hence of an accused lunatic, to have counsel was even longer denied to him than the right to call his witnesses, and, as we shall see, was not assured to him in England until the year 1836. This hardship led to curious episodes in English practice, which will be described briefly in this paper.

According to that great oracle of the common law, Lord Chief Justice Coke,<sup>3</sup> the reasons for the old law were curious and two fold:

"First, for that in case of life, the evidence to convict him should be so manifest as it could not be contradicted.

Secondly, the court ought to see that the indictment, trial, and other proceedings be good and sufficient in law, otherwise they should by their erroneous judgment attain the prisoner unjustly."

In plain English the theory of the common law, as here given by Coke, was that the judge was also the counsel for the prisoner, and it was his duty to see that no injustice was done him, and that he was not convicted except on evidence that was unmistakable. This became a pet theory of text-writers, and was thought to proclaim the inherent nobility and grandeur of the common law. Come, said the law to the prisoner, I will try you and see that no injustice befalls you; but you must have no counsel and call no witnesses, even if you hang for it.

Blackstone<sup>4</sup> attempts to apologize for this rule of law, but only makes matters worse; he applauds "that noble declaration of the law, when rightly understood, that the judge shall be counsel for the prisoner." But all the same, the learned commentator did not approve of the law, and he attempts to explain it away.

<sup>3</sup> 3 Inst. 137.

<sup>4</sup> 4 Com. 355.

When a reader of to-day tries to imagine the notorious Judge Jefferies acting as counsel for a prisoner on trial before him for treason to the house of Stewart, he gives up the attempt in vain. See, for instance, the report of the trial of Lady Alice Lisle before this same Jefferies,<sup>4</sup> in 1685. She was, indeed, not insane, but aged and infirm, and so deaf that she could not hear what was taking place at her trial. Her "crime" had been entertaining a nonconformist minister who was said to have been in Monmouth's rebellion. Jefferies, who in the theory of the law was "of counsel for the prisoner," told the jury, after the verdict, that he himself, if on the jury, would have voted to convict her, "if she had been my own mother." James II refused to pardon her, although he graciously allowed her to be beheaded instead of being burned at the stake. By special act of Parliament, long after her execution, her attainder was removed, and Jefferies denounced. This woman, physically and mentally infirm, had stood her trial before a monster of injustice, without sworn witnesses on the stand or counsel at her side.

In the case of *Bateman*,<sup>5</sup> an insane man, of whom it was said even at that time, 1685, that he ought never have been tried, much less executed, the prisoner's son only was allowed to help him in his defence; but in those days it was held to be a misdemeanor to help a prisoner on trial, even by whispering a word to him.

The only exception in favor of the prisoner was in case some point of law arose proper to be debated.<sup>6</sup> This was a matter within the discretion of the court; and the court itself appointed the counsel for this special purpose, in some instances naming the barrister whom the accused man himself chose.<sup>7</sup> But the law denying counsel the right to examine witnesses or to address the jury, was so unjust that Blackstone himself exclaims, "upon what face of reason can that assistance be denied to save the life of a man which yet is allowed him in prosecution for every petty trespass?" In other words, a man had the right to have counsel in petty cases, but not in cases of treason and felony wherein his life was at stake. Such were the inconsistencies of

<sup>4</sup> 4 Hargrave, State Trials, 106.

<sup>5</sup> Hargrave, 4, State Trials, 206.

<sup>6</sup> Coke, 3 Inst. 137. Blackstone, 4 Com. 355.

<sup>7</sup> Case of *Rosewell*, Howell's State Trials, X, 147.

the English criminal law, which condemned prisoners, sane and insane alike, without allowing them to be properly heard. But Blackstone further tells us that by his time the judges had become so sensible of this defect that they did not scruple to allow a prisoner counsel to instruct him what questions to ask or even to ask questions for him. Hence, it was not until well on in the 18th century that this injustice began slowly to be rectified. Nevertheless it was not entirely corrected for nearly a century later, for counsel were not allowed to address the jury, and men continued to be tried for murder without being properly defended.

In the case of treason, however, the abuse was corrected earlier, for by statute 7 Will. III c. 3, persons indicted for some forms of treason were allowed two counsel, and the reason assigned by Blackstone was, lest their cases should be prejudiced by "higher influence," meaning the influence of the King and the government. But on the subject of insanity and high treason the English common law had formerly been cruel and unjust, for Coke tells us in the *Beverly case*<sup>12</sup> that "*non compos mentis* may commit high treason; as, if he kills or offers to kill the King;" and Lord Chief Justice Hale, referring to this passage in Coke, says: "This is a safe exception, and I shall not question it, because it tends so much to the safety of the King's person."<sup>13</sup> And so intense was this prejudice against the insane regicide that by the statute, Henry VIII, Chap. 20, it was provided that if a person, being of sound mind, should commit high treason, and afterwards fall into madness, he might be tried in his absence, and executed as if he were sane. That is, the lunatic had neither the right to call witnesses, to have counsel, or even to be present at his trial. But this infamous statute was too much even for the olden times; it was repealed by statutes 1 and 2, Philip and Mary, Chap. 10; and it has been condemned by all the best authorities.<sup>14</sup>

As a part of the barbarous injustice of the old common law, the prisoner was not allowed even to have a copy of the indictment before trial; and a serio-comic scene was enacted in the case of Rosewell,<sup>15</sup> on trial for high treason, when the prisoner, a religious monomaniac, after being refused counsel, demanded

<sup>12</sup> 4 Coke, 124. <sup>13</sup> 1 P. C., Chap. IV, p. 37. <sup>14</sup> Blackstone, 4 Com. 25.

<sup>15</sup> Howell, State Trials, X, 147.



every once in a while in open court that the indictment be read to him, now in English, and again in Latin. As the indictment was interminably long, this process consumed much time and sorely tried the patience of the lord chief justice.

Neither was the court satisfied in the olden times with exercising a parental control over the prisoner merely; it did the same thing for the witnesses and the jury. Witnesses were abused and menaced from the bench. Some of the harangues of Jefferies while presiding at state trials are almost incredible; he accused and railed at witnesses, calling them opprobrious names and hurling blasphemous maledictions at them.<sup>16</sup> The lot of the jury was no better; in fact it was sometimes even worse. In the case of Sir N. Throckmorton, tried for high treason in 1554, the jury, which acquitted the prisoner, were fined and imprisoned for the verdict. Eight of them had to pay 220 pounds each, and the other four got off, having apologized.<sup>17</sup> A recent English writer<sup>18</sup> says that to go back even to the beginning of the 19th century, is to return to an age of barbarism; and another writer<sup>19</sup> says that formerly judges browbeat these defenceless prisoners, jeered at their efforts to defend themselves, and censured juries who honestly did their duty. Thus it was when the judge was "of counsel for the prisoner."

There is a curious account of legal procedure in criminal cases in a book written by Sir Thomas Smith, secretary of state to Queen Elizabeth.<sup>20</sup> From this book it appears that before the English civil war, in the 17th century, the accused man before trial was kept in close confinement and could not prepare for his defence. He had no notice beforehand of the evidence against him, and he was obliged to defend himself at his trial as best he could, with no counsel to help him, and with no witnesses in his behalf. There were no strict rules of evidence as there are now; everything was left to the discretion, or caprice, of the court; and the procedure often degenerated into a mere wrangle between the prisoner and the witnesses for the crown.

<sup>16</sup> See Hargrave's *State Trials*.

<sup>17</sup> Stephen, *op. cit.*, Vol. 1, p. 326.

<sup>18</sup> Sir S. H. Poland, *Century of Law Reform*, p. 42.

<sup>19</sup> Odgers, *ibid.*, p. 41.

<sup>20</sup> *Commonwealth of England*, Ch. XXV, pp. 183-201.



How an insane man would fare in such a trial, may easily be imagined.

In spite of its defects, however, the old common law of England was in theory absolutely just to the insane; and no code of law in any nation ever threw such safeguards about the lunatic. Thus an insane man was not only exempt from the penalties of crime, but it was also a part of the law that he should not even be put on trial for his alleged offence so long as his insanity endured. All the old authorities, such as Coke,<sup>21</sup> Hale,<sup>22</sup> Hawkins,<sup>23</sup> and Blackstone<sup>24</sup> are agreed on this subject. Hale says that if a man of sound mind commit a capital offence, and before his arraignment becomes mad, he ought not to be arraigned; and if after his plea, and before his trial, he becomes insane, he shall not be tried; or if after his trial, he becomes insane, he shall not receive judgment; or if after judgment, he becomes insane, his execution shall be spared. Surely nothing could be more humane than this.

But while in principle the common law was thus benign and enlightened, in practice, as we have seen, it was harsh and unreasonable. And that the practice of the courts, as it stood in those days, was a most effectual deterrent to the plea of insanity, is evident from an occasional writer of the times. Thus an old commentator on the state trials, in the time of Charles II, says that the defence of insanity had sometimes been tried in capital cases, but with so little success that in his time it was scarcely heard of.<sup>25</sup> This is not much to be wondered at when the same writer tells us that in one case the prisoner's wife was threatened with being thrust out of court for merely whispering to her husband what jurors he should challenge; that in another case the prisoner's wife was only by special permission allowed to take a few notes for him; and that in still another case, that of an insane apothecary on trial for high treason, the prisoner's son only was allowed to be with him and give him a little help, although the accused man was dragged into court after ten weeks of solitary confinement, in such a mental state that even the court saw plainly that he was "moped mad." These men were

<sup>21</sup> 3 Inst. 4.      <sup>22</sup> 1 Pleas of the Crown, 34, 35.

<sup>23</sup> 1 P. C., Chap. 1, §3.    1 Chitty, Crim. Law, 761.

<sup>24</sup> 4 Com. 24, 395, 396.      <sup>25</sup> 4 State Trials, 205.

all tried without being allowed legal counsel or sworn witnesses, and the apothecary was hanged.

According to this same writer, it was no trifling thing even to advise a man *before* his trial, and a solicitor had once been indicted for high misdemeanor for merely giving advice before trial to a person accused of high treason.

The extraordinary spectacle was thus sometimes presented of a lunatic conducting his own defence. We see a man in jeopardy of his life, trying to prove himself insane by the acumen with which he examined and cross-examined the witnesses. The prisoner, in order to prove that he was insane, was obliged to reveal the fact that he had sufficient reason to conduct his own case. If he did this—and it was his only chance—with some show of coherence and insight, this very fact was seized upon by the crown lawyers to prove that he was sane. In other words, his predicament was such that the more he tried to prove by witnesses that he was insane, the more he proved by his own display of logic that he was not insane. Never was a man placed between the two horns of such a dilemma.<sup>26</sup>

Let us take for instances the case of Edward Arnold, one of the *causes celebres*, in medical jurisprudence.<sup>27</sup> Arnold was tried in 1724 for shooting at Lord Onslow with intent to kill. The prisoner was a delusional lunatic, and believed himself persecuted by Onslow, who, he thought, sent evil agents to annoy him, and even got into his belly; he imagined also that he was bewitched by the noble lord, and that the latter in some mysterious way was responsible for most of the evils of the times. There were marked aural hallucinations, insomnia, inability to work, and the whole paranoiac outfit. When this man was brought to trial an effort was made to have the judge permit a solicitor to be at the prisoner's side "to call his witnesses only;" but it was most vehemently fought by four lawyers for the crown. They contended that the judge was "of counsel for the prisoner," and that the attempt to prove him a lunatic "was a design to forestall justice." This was before a word of testimony had been heard. "And the man to my sight," said the leading lawyer for

<sup>26</sup> Wharton & Stillé, *Med. Jurisprudence*. From the author's chapter on "Insanity and the Law," p. 525.

<sup>27</sup> 16 Howell, *State Trials*, 465.

the crown, "seems as sensible as myself or any person in court." Justice Tracy decided against allowing the prisoner any counsel, but said he himself would give him all the assistance in his power. He told the prisoner, "as all the witnesses come, if you have any question to ask, put it to me, and I will ask your question for you." Also at the close of each witness's examination the crown lawyer would say, "Arnold, would you ask this witness any question?" To which the prisoner once replied: "I don't know. Ask him yourself if you have a mind." His usual answer was, "I don't know what to say." And truly he did not. He was allowed a solicitor for part of the time; but there was no proper cross-examination of the crown witnesses, and the examination in chief of the witnesses for the defence was conducted by the judge and the lawyers for the crown. It was clearly proved, nevertheless, that the man was a delusional lunatic; but the evidence made no impression on the minds of either court or jury. No medical experts were called; and, no counsel being allowed for the prisoner, his evidence was not properly marshalled, and no address was made for him to the jury. All his evidence, in short, went for nothing. When the poor wretch attempted to ask questions of the witnesses, he was badgered by the crown lawyers; and the judge, instead of acting as counsel for him, as he had promised, told the jury, in a charge which was destined to be forever famous, that a man could not be acquitted on the defence of insanity unless he was "totally deprived of his understanding and memory, and doth not know what he is doing, no more than an infant, than a brute, or a wild beast." The prisoner was promptly convicted and sentenced to be hanged; but to the credit of the crown his sentence, at the request of Lord Onslow, was commuted for imprisonment, and he spent the remaining thirty years of his life in jail.

Perhaps the most dramatic and spectacular trial of a lunatic that ever took place was that of the Earl Ferrers.<sup>28</sup> This English nobleman was arraigned in 1750 for murdering his steward, Mr. Johnson. The tribunal that tried him was not an ordinary criminal court, but no less august a body than the House of Lords, because, according to English law, every man is entitled to a trial before a jury of his peers; therefore an English earl makes his

<sup>28</sup> 19 Howell, State Trials, 886.

defence, when he commits a crime, before the upper House of Parliament. The trial was conducted with great pomp and ceremony. The court was presided over by the lord high steward, one of the highest offices under the English Constitution, but usually in abeyance, and only filled for special occasions, such as the coronation of a king or the trial of a peer for murder. The details are too voluminous for quotation, or even for judicious condensation, but every modern alienist, who feels an interest in the history of his specialty, should read the highly entertaining report of the proceedings as given in the 19th volume of the State Trials.

Lord Ferrers was allowed no counsel, but was obliged to conduct the whole defence himself, not only against the attorney-general, who was one of the ablest lawyers of his time, and afterwards lord chancellor, but also with such eminent jurists as Lord Mansfield and Lord Hardwicke present and ready to trip him up. He was evidently carefully coached for the occasion, and conducted the examination and cross-examination of witnesses with remarkable skill. It is very evident that the impression he made upon his jurors—the whole House of Lords—was highly unfavorable to his case, because the very skill with which he conducted his defence was taken as evidence that he was of sound mind; and the counsel for the crown were nothing loath to take advantage of this point, and drive it home. The proceedings of the trial read almost like a burlesque. Lord Ferrers' case was evidently one of alcoholic insanity, engrafted upon a hereditary stock. It was shown that he often began his day by drinking brandy in his tea for breakfast, and he drank steadily and in excess. He had the delusions of persecution which are common in alcoholic insanity, and he was probably drunk when he killed his victim. After the tragedy he sustained a siege for many hours in his own house, and when finally taken was "armed with a blunder-buss, two or three pistols and a dagger." Sometime before the murder a commission in lunacy had been thought of for him, but unfortunately it had never been taken out. His uncle and immediate predecessor in the earldom had been insane, as had also a paternal aunt. All these facts were brought out in the evidence. The irony of the trial consisted in the fact of a man in jeopardy of his life trying to prove his own insanity

by examining and cross-examining witnesses. He frankly deplored the need of doing this, and told the lords naively that this plan of defence was forced upon him by his family; intimating that he took not much stock in it himself. The effect can readily be imagined. The questions and answers are often amusing. "In what light did you look upon me?" he asked one of his witnesses. "Rather turned in your head," was the answer. "Have you seen any instances of anything like insanity in me?" was another question. To one question: "Do you look upon me as affected with any and what distemper?" the witness replied very frankly: "Indeed, I have looked upon your lordship as a lunatic for many years." The accused man even made an attempt to propound a hypothetical question (the first instance probably in any court) but it was not allowed. When he came to sum up, he frankly protested that he was not able to do it, but he obtained leave to read a statement which he had prepared, or which had been prepared for him, in writing, in which, with pathetic helplessness, he said: "I have been driven to the miserable necessity of proving my own want of understanding; and am told, the law will not allow me the assistance of counsel in this case, in which, of all others, I should think it most wanted." Earl Ferrers, like other insane persons, was opposed to making a defence of insanity, and said it was forced on him by his family. His defence and speech were remarkable; the evidence was clear; and yet this lunatic conducted his own defence by trying to prove what he said he was mortified to have to acknowledge. The natural result followed. He was promptly convicted by his peers, and hanged. It is probable that his confinement in jail before his trial had partly at least restored his mental balance by depriving him of his accustomed libations.

Such a travesty of justice is sad to contemplate. At the present time a strong defence could be made in such a case, and a verdict in the second degree probably obtained without difficulty. The present-day critics of our legal procedures should reflect upon the advances that have been made in medical jurisprudence.

The case of Hadfield is also a celebrated one and serves to illustrate some of the peculiarities in the development of trial by jury in English law as it affected the insane. Hadfield had shot at King George III in Drury Lane Theatre, but had missed



his aim, and the King was unharmed. This was an act of treason, punishable with death, and it was for treason that Hadfield was tried at the bar of the Court of King's Bench in 1800. Now the old common law had been modified, as we have seen, by the act 7 Will. 111 C. 3, which allowed counsel to a prisoner on trial for treason. Consequently Hadfield had counsel, as he would not have had if he had been, like Arnold and Earl Ferrers, on trial for murder or attempted murder. It is to this fact alone that we owe the celebrated speech of Erskine in Hadfield's defence—a speech which more than any other ever pronounced in a court of justice tended to change the legal tests for insanity, for it introduced and established the doctrine that insane *delusion* is a good defence in law.

In 1812 Bellingham, a delusional lunatic, shot and killed Mr. Spencer Perceval, First Lord of the Treasury, in the lobby of the House of Commons.<sup>28</sup> He believed that the government owed him a large sum of money, and failing to obtain redress he had assassinated this eminent statesman. Bellingham's case is the most notorious in the medico-legal annals of England. He shot Mr. Perceval on the 11th of May; was put on trial the same week, found guilty after a very short trial, during which a fruitless attempt was made to secure delay in order to obtain witnesses to his insanity, and was hanged on the 18th of the same month; so that the boast was made that his body was on the dissecting table in eight days after he had committed his crime. At the end of the case for the crown the prisoner was called on for his defence; and he then, pointing to his lawyer who was present, said: "Is not that gentleman going to speak for me?" On being told that the law did not allow this, he defended himself.<sup>29</sup> He addressed the court, and spoke so coherently that the crown lawyers exultingly made much of it, as evidence of a sane mind. A lawyer who was engaged to help him, although not allowed to appear for him as counsel at the trial in the ordinary sense, begged vainly for postponement. "I never saw the prisoner before, and it has not been in our power to bring forth all the evidence to prove whether he be sane or insane." But the plea was vain.

<sup>28</sup> 1 Collinson, Lunacy, 636.

<sup>29</sup> Century of Law Reform, 2d Lect. by Sir H. B. Poland.



All this was in accord with the practice that prevailed less than one hundred years ago in English courts. Sir H. B. Poland says<sup>21</sup> that in cases of felony (which included murder, but not treason) a prisoner's counsel was only allowed to cross-examine witnesses, to argue points of law, and to examine witnesses for the defence of the prisoner. But evidently he could not address the jury. And Chitty tells us that upon a charge of felony (which included murder) counsel were allowed to the prisoner only if some *point of law* should arise fit to be debated.<sup>22</sup>

Reform in legal procedure moves slowly in England, but popular indignation was gradually roused against this injustice; and it found voice in a most unexpected quarter. In 1824 George Lamb presented a petition to Parliament, signed by members of the juries serving in criminal cases at the Old Bailey, praying that the accused in cases of felony (murder, &c.) might have the benefit of counsel, as in cases of misdemeanor. It was plainly said by a writer of the time that the juries had become weary of the continual butchery, and resolved to acquit. It was believed that innocent persons were often found guilty because of the absence of counsel; and one telling argument was based on the helplessness of the insane, when forced to defend themselves before a jury and against trained lawyers for the crown.

"Suppose a crime to have been committed under the influence of insanity," exclaimed Sydney Smith; "is the insane man to plead his own insanity—to offer arguments to show that he must have been mad—and by the glimmerings of his returning reason to prove that, at a former period, that same reason was utterly extinct?" This was exactly what had been going on for centuries, but Sydney Smith, although he wrote so eloquently, did not appear to know it.

Lord Chief Justice Denman, of the Court of King's Bench, said that he had once tried two prisoners who were deaf and dumb; and he exclaimed against the harshness of such a trial without counsel for the prisoner. It would indeed be hard to imagine anything more grossly unjust than to try a person who could neither hear the accusation nor reply to his accuser, and who was not allowed counsel to hear and reply for him. When

<sup>21</sup> *Op. cit.*, p. 50.    <sup>22</sup> Footnote to Chitty's Eng. Statutes, 1894, Vol. 3.

Lord Lovat was tried for treason in 1747 he protested that he could not conduct his own defence, because he could neither see nor hear. In consequence a bill was brought into Parliament to allow counsel to prisoners impeached by that House.

Sydney Smith's essay,<sup>23</sup> in 1826, from which we have quoted, was a masterly criticism of the old law, and it probably had something to do to mould public opinion and lead to reform; but that reform did not come until 1836, when Parliament passed the law known as the Prisoner's Counsel's Act (6 & 7 Will. IV C. 114), which prescribed as follows:

"That all persons tried for felonies shall be admitted, after the close of the case for the prosecution, to make full answer and defence thereto, by counsel learned in the law, or by attorneys in courts where attorneys practice as counsel."

Thus not until near the middle of the 19th century did England correct an injustice which had stood for centuries, and not then without protest. Poland says that, after reading Sydney Smith's article in the *Edinburgh Review*, it is difficult to understand how the law could have remained unchanged until 1836. But it is a still more astonishing fact that, according to the same writer, twelve out of the fifteen highest judges in England strongly condemned the bill, and one of them, Mr. Justice Park, said that if it was allowed to pass he would resign from the bench. Nevertheless the bill did pass, and the learned judge did not resign.

The fact is well known that the insane often object to the defence of insanity in their behalf. This defence, as a rule, is not relished by paranoiacs. These lunatics do not like to be called insane. They resent the imputation most vigorously; for it is a well-known characteristic of delusional patients to defend their delusions, and this they will do at the risk of their lives, even when on trial for murder. Under the old common law such patients, when obliged to defend themselves without counsel, were more likely to ruin their cases than to help them. We have seen

<sup>23</sup> *Edinburgh Review*, Dec., 1826. Sydney Smith's essay was written as a review of Stockton *On The Practice of not Allowing Counsel to Prisoners Accused of Felony*, 8vo. London, 1826. The review is republished in Smith's *Collected Essays*, London, Longmans, Green, and Co., p. 539. It was unsigned in the original. In commenting on the old practice Smith wrote, "The iron age of Clovis on Clottaire can produce no more atrocious violation of every good feeling and every good principle."

how Lord Ferrers apologized for making such a defence, and said he was forced to do so by his family; he evidently resented the idea. Another early case was that of Frith,<sup>22</sup> in 1790, who protested loudly against the defence of insanity. He had thrown a stone at the King in his royal coach, and when put on trial he harangued the court in a crazy manner. A like scene was enacted at the trial of Pearce,<sup>23</sup> in 1840, for felonious assault. Insanity was admitted by the crown, but the prisoner would have none of it, and insisted on addressing the court and examining the witnesses himself. These witnesses, called and examined by him, so far from proving him sane, proved quite the contrary; and he was found not guilty, on the ground of insanity, in spite of his protests. His counsel (for this was after the passage of the Prisoner's Counsel's Act, in 1836) said that "he relied on the prisoner's denial of his insanity, under the circumstances which had been proved against him, as one proof of the fact of his being insane." But usually, under the old common law, the very opposite conclusion was drawn by the prosecution. Thus, as we have seen, Bellingham addressed the court, and spoke so well and conclusively in an insane speech, that the court accepted it as an evidence of his sanity. Guiteau derided the idea of his own insanity; and if he had been compelled, or allowed, to conduct his own defence, his trial would probably have been going on yet.<sup>24</sup>

There are curious and deep psychological reasons for the old English common law denying counsel, and even witnesses, to a prisoner on trial for grave crime. The subject is too involved for more than a hasty discussion here. One idea was that it was the business of the court to defend the prisoner; that is, to see that no injustice was done him. Hence the old saying that the judge is of counsel for the accused. This was a part of the orthodox belief of almost every old common-law writer; and was particularly derided by Sydney Smith. But another and more occult reason appears to have been that it was deemed a wicked opposition to the Majesty of the King for any lawyer to get up

<sup>22</sup> 22 Howell's State Trials, 307. <sup>23</sup> Reg. vs. Pearce, 9 Car. & P. 667.

<sup>24</sup> See the writer's work in Wharton & Stillé's *Med. Jurisprudence*, 5th ed. Vol. 1, pp. 840-841, from which the above paragraph has been taken in part.

in court and deliberately oppose him—for in the fiction of the law the King is always present in court in the person of one or more of his judges. The defence of a man who might be guilty was disloyalty to the King, or at least a disrespect shown to him, and it was held to be more likely than not a mere effort to forestall justice. As one writer says, it was an "indecent" to oppose the King's counsel. This was a prejudice derived from the civil law of feudal Europe, and was based probably on the fact that the majority of accused persons who come to trial are really guilty, and it is the business of the court to demonstrate that fact. Any opposition, as by counsel for the prisoner, is an unwarranted interference. The old jurists were keenly alive, in other words, to the possible abuses of the defence; to all the arts and wiles and trumped-up pleas that make our present criminal trials too often such public scandals.

But modern jurists do not see it that way, and it is an axiom now that an accused man is entitled to his defence. The contrary savors too much of tyranny. One of the most infamous laws of Robespierre, during the Reign of Terror, was the law of Twenty-second Prairial, by which, among other iniquities, counsel was denied to prisoners accused of treason. This feature aligns this law with the old English common law, which bore so hard on the insane. Morley says that "of all laws ever passed in the world it is the most nakedly iniquitous."<sup>27</sup>

In times of stress the office of advocate for an unpopular prisoner may be one not only of embarrassment but of danger. Malesherbes, that grand and venerable man who, at the peril of his life, undertook the defence of Louis XVI before the Convention, is perhaps the most conspicuous example in history. At the age of 74 years he attempted to save his King, only to follow him in a few short months to the guillotine.<sup>28</sup>

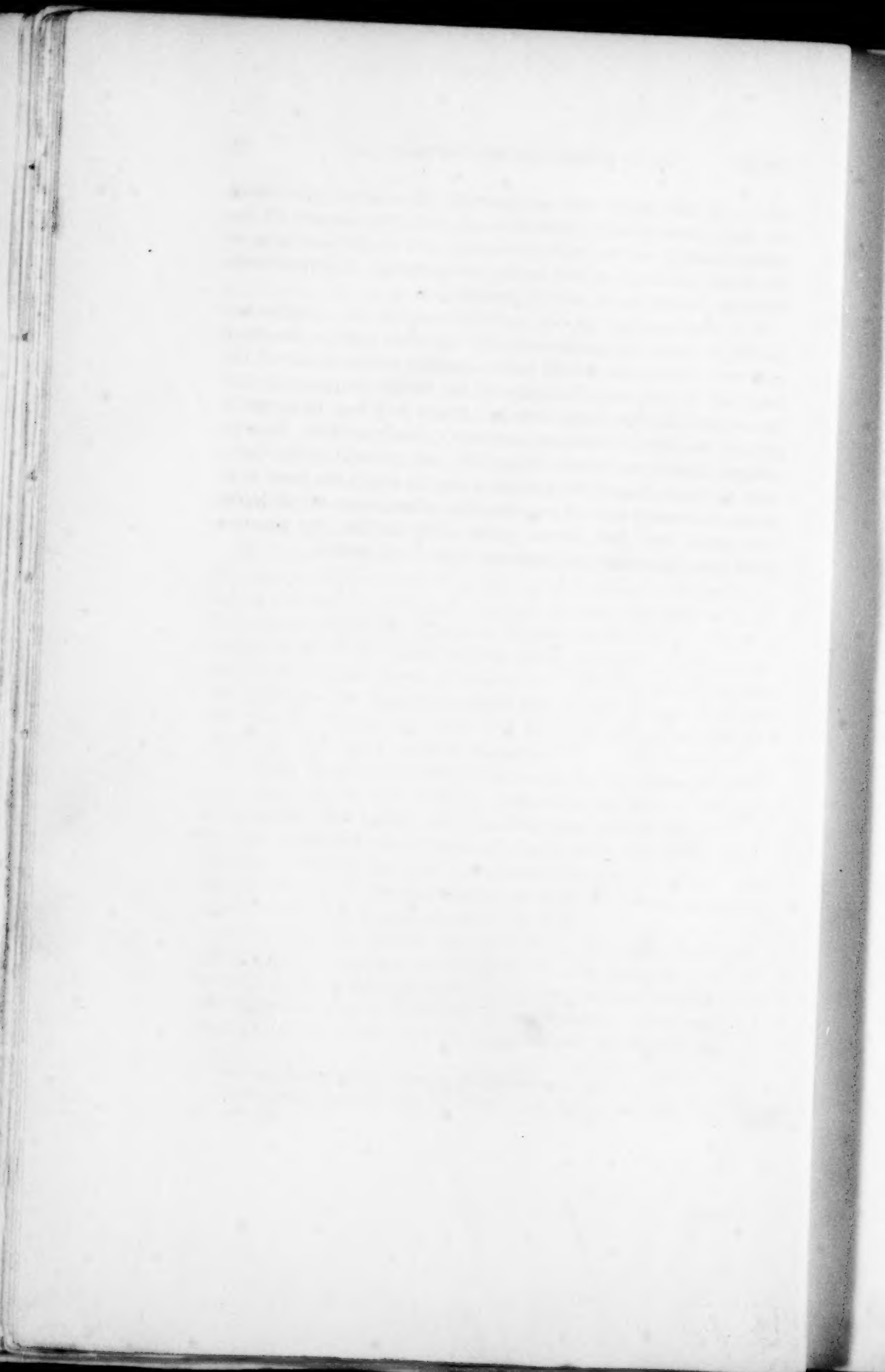
At the trial of Colgoz, the assassin of President McKinley, the position of counsel for the prisoner was thought to be so obnoxious that special measures were taken to have it filled; and the defence was but half-hearted and perfunctory. The man was really tried by public opinion long before his formal trial in

<sup>27</sup> Critical Miscellanies, Essay on Robespierre, p. 106.

<sup>28</sup> Lamartine's History of the Girondists, Vol. II, p. 314 *et seq.* Vol. III, pp. 411-412.

court. It was such a case as under the old common law would not have been allowed counsel at all; and the question of the man's insanity was as badly presented as it would have been in the Court of King's Bench in the 17th century. Human nature does not change much, even if the laws do.

It is well perhaps for the modern reader in his complacency to reflect that in the present day we may have gone to the other extreme. Some one should write a treatise on the abuses of the legal art of defence. Certainly we see to-day the prisoner and his counsel allowed every latitude. Every loop-hole of escape is opened to him; irrelevant testimony, technicalities, insanity dodges, appeals to popular prejudice, and by-plays to the jury, now consume days in the trial of a case in which the issue is so simple that under the old common law, when courts sat all night, and juries were not allowed meat, drink or fire, the prisoner could have been convicted between sunrise and sunrise.





## THE RELATION OF IMMIGRATION TO THE PREVALENCE OF INSANITY.

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The growth of immigration within a very few years has been so great that at last it has become the principal source of population and its character has changed so fundamentally that it has assumed an entirely new relation to American social problems. Up to 1900, the average annual immigration had not exceeded one-half of one per cent of the population of the United States and the races which had made the first settlements in the country were still contributing more than seventy-five per cent of the whole number of arrivals. By 1901, the "new immigration" had fairly started, the English, Irish, Germans, and Scandinavians had been quite supplanted by Hebrews, Slavs and Italians and the impetus had been received which, four years later, was to carry immigration past the "million-a-year" mark. More than one-fifth of all the immigrants who have come to this country have arrived since 1900 and, with the changed sources of immigration, a remarkable transformation in the composition of our foreign-born population is in progress.

To some, this transformation brings only the gloomiest forebodings. Professor Goldwin Smith, in a recent paper, expressed the opinion that the present great tide of immigration would be found unassimilable and that it constituted the most prominent peril to the Republic. The spread of Socialism, the extension of industrial disturbances into social and political spheres, an increasing disregard for law and many other evils are believed by those who share Professor Smith's views to be directly attributable to the "new immigration." There are others who see nothing unassimilable in the present immigration but who firmly believe that the strikingly dissimilar elements of our population are capable of being welded together into a homogeneous whole in which American ideals will continue to prevail. These are matters, of

course, which only incidentally concern the physician, but social conditions and mental disease are so closely related that it is well worth while to investigate the present immigration from the standpoint of those who have to do with the care of the insane and are particularly interested in the prevention of insanity.

Before 1900, the foreign-born insane in the hospitals fairly represented the foreign-born population and the "Special Report on the Insane and Feeble-minded," recently issued by the Census Bureau provides very valuable material for studying the part played by the "old immigration" in the prevalence of insanity in the United States, but the "new immigration" has been of such recent origin that it is difficult to estimate the value of data relating to its influence. In many States, the effects of the "new immigration" have not yet been felt at all, but in the State of New York, which receives more than one-third of the yearly quota of the "new immigration," and which has in its institutions more than twenty-eight per cent of all the foreign-born insane of the United States, some interesting material is available for study. In that State, the ratio of the insane to the population has risen from one in 675 in 1875 to one in 294 in 1905. In 1906, forty-six per cent of the whole number of patients admitted to the New York State Hospitals were of foreign-birth, while the foreign-born population was but twenty-six per cent of the whole population of the State. There is such an obvious relation between this rising ratio of the insane to the population and the increasing proportion of foreign-born patients in admissions that it is a matter of practical interest to collect some information regarding the insane immigrants arriving at the present time and the most recent foreign-born admissions to public institution.

To do this is the purpose of this paper, and two groups of one hundred cases have been taken in order to make some comparisons as to age, sex, nativity, and race. One group consists of one hundred consecutive cases of insanity detected at Ellis Island by the medical officers of the Public Health and Marine-Hospital Service and the other of one hundred consecutive cases of insanity in aliens deported from public institutions. All cases in both groups were in the fiscal year ended June 30, 1906.

*Sex.*—Of the 100 insane immigrants detected at Ellis Island, 61 were men and 39 were women. The ratio of men to women in the total number of arrivals in the fiscal year was 69 to 31. Among the insane aliens deported from public institutions during the year the ratio was 56 to 44. In all the admissions to the New York State Hospitals for the fiscal year ended September 30, 1905, the ratio of men to women was 48 to 52. There seems, therefore, to be a higher proportion of women in the foreign-born insane. In Germany, England, and Italy the number of insane women exceeds that of insane men in about the same proportion that the number of females in the population exceeds the number of males.

*Age.*—The following table shows the ages of the insane immigrants detected at Ellis Island and of the aliens deported from public institutions for the insane.

TABLE I.

Showing the age of 100 immigrants certified for insanity at Ellis Island and of 100 aliens deported from public institutions.

Age	Certified at Ellis Island	Deported from institutions
Under 15 years .....	..	2
15 to 20 years .....	7	25
20 to 25 years .....	18	28
25 to 30 years .....	21	17
30 to 35 years .....	10	14
35 to 40 years .....	12	6
40 to 50 years .....	16	7
50 to 60 years .....	13	1
Over 60 years .....	3	..
	<hr/>	<hr/>
Average age .....	100 35.8 yrs.	100 23.2 yrs.

The strikingly large proportion of young people among insane immigrants is a matter of considerable practical importance. Under modern systems of care, the chronic insane tend to accumulate in institutions and, as their expectation of life is not much less than that of sane people of the same age, young patients with incurable forms of mental disease become ultimately the source of much greater cost to the public than older patients. In 1905,

the average age of patients admitted to the New York State Hospitals was 40.3 years, at which age the normal expectation of life is 26 years. The average age of the 100 insane aliens deported from public institutions was 23.2 years, at which age the normal expectation of life is 38 years. It is safe to predict that, from the diminishing average age of patients admitted to the New York State Hospitals, the ratio of the insane to the population will continue to rise. The absence of senile cases in insane immigrants is accounted for in part by the small number of arrivals more than 45 years old (only 4.3 per cent, while 11 per cent of the whole population of the country is older than this), and by the fact that relatives in this country are less likely to send for those who have deteriorated mentally than for those whose infirmities are only physical.

*Nativity and Race.*—The following table shows the nativity of the two groups of 100 cases and, for comparison, the percentage of immigrants from each country in the arrivals of the fiscal year. Those countries which furnished a proportion of insane immigrants in excess of their share of arrivals are marked by asterisks.

TABLE II.

Showing the nativity of 100 immigrants certified for insanity at Ellis Island and of 100 insane aliens deported from public institutions, and, for comparison, the percentage of immigrants from each country in the total number of arrivals during the fiscal year.

Country	Percentage of total arrivals	Percentage of insane immigrants detected at Ellis Island	Percentage of insane aliens deported from institutions
Austria-Hungary .....	25.4	12.0	21.0
Belgium .....	.5	..	1.0
*France, including Corsica.....	.9	4.0	2.0
*German Empire .....	3.5	12.0	5.0
Greece .....	2.0	1.0	1.0
Ita'y, including Sicily and Sardinia	28.8	12.0	10.0
Norway .....	1.5	..	3.0
*Roumania .....	.4	1.0	1.0
*Russia and Finland .....	19.6	17.0	29.0
Sweden .....	1.6	1.0	1.0
*Switzerland .....	.4	..	2.0
*Turkey in Europe .....	.8	..	5.0

Country	Percentage of total arrivals	Percentage of insane immigrants detected at Ellis Island	Percentage of insane aliens de- ported from institutions
United Kingdom:			
*England .....	3.7	13.0	5.0
*Ireland .....	2.6	19.0	11.0
Scotland .....	1.3	4.0	1.0
West Indies .....	1.0	1.0	1.0
All others and unascertained.....	6.0	3.0	1.0
Total .....	100.0	100.0	100.0

The following table shows the nativity of the foreign-born patients in the New York State Hospitals on September 30, 1905, and, for comparison, the percentage of natives of each country in the total foreign-born population of the State and the ratio of the insane of each nationality to the whole number of natives of that country in the State. Those countries having a larger percentage of insane than of the total foreign-born population are marked by asterisks. The nativity of the foreign-born patients remaining under treatment in the New York State Hospitals, September 30, 1905, was the subject of a special report by the superintendent of each institution and I am indebted to Dr. William L. Russell, Medical Inspector of the State Commission in Lunacy, for copies of these reports. They form the most accurate enumeration of the foreign-born insane in New York State which has yet been made. The last enumeration of the foreign-born inhabitants of New York State, by the countries of their birth, was the Federal Census of 1900 and, therefore, the ratios shown are only approximately correct for the natives of Russia, Italy, and Austria-Hungary as the large immigration from these countries during the last few years has resulted in a disproportionate increase for them in the whole foreign-born population. Until the next Federal Census, it will be impossible to make more accurate comparisons upon this basis.

TABLE III.

Showing, by countries of their birth, the percentage of foreign-born patients of each nationality in the total number of foreign-born patients in the New York State Hospitals, September 30, 1905, and the percentage of



people of each nationality in the whole foreign-born population of the State and also the ratio of the patients of each nationality to the number of people of that nationality in the State. Nationalities represented in either the State hospitals or the general population by less than one-half of one per cent of the whole number of foreign-born are omitted.

Country	Percentage of whole number of foreign-born patients in hospitals	Percentage of whole number of foreign-born in the State	Ratio of insane to population
Austria-Hungary .....	6.3	6.9	1 to 199
Canada .....	3.8	6.2	1 to 220
Denmark .....	.5	.5	1 to 170
*France .....	1.3	1.0	1 to 149
*German Empire .....	25.9	25.3	1 to 173
Italy .....	3.9	9.6	1 to 431
Norway .....	.6	.6	1 to 182
Roumania .....	.2	.5	1 to 340
Russian Empire and Poland.....	8.8	12.4	1 to 249
*Sweden .....	2.4	2.3	1 to 169
*Switzerland .....	.8	.7	1 to 161
United Kingdom:			
England and Wales.....	5.9	7.5	1 to 209
*Ireland .....	36.0	22.4	1 to 111
Scotland .....	1.3	1.8	1 to 249
*West Indies .....	.5	.2	1 to 81
All others and unascertained.....	1.8	2.1	.....
Total .....	100.0	100.0	

A better illustration of the effects of the "new immigration" is shown in the following table, which gives the nativity of the foreign-born patients admitted in the year ended September 30, 1905, to the Willard State Hospital and of those admitted to the Manhattan State Hospital. Each institution had about the same proportion of foreign-born admissions but the Willard State Hospital is in the interior of the State where the effects of the "new immigration" have not yet been felt and the Manhattan State Hospital is in New York City.

TABLE IV.

Showing the nativity of the foreign-born patients admitted in 1905 to the Willard State Hospital and to the Manhattan State Hospital. Countries having less than one per cent of admissions are disregarded in each column.



Country	Percentage of total foreign- born admissions, Willard State Hospital—1905	Percentage of total foreign- born admissions, Manhattan State Hospital—1905
Austria-Hungary .....	4.0	14.0
France, including Corsica .....	1.5	1.0
German Empire .....	26.0	18.0
Italy, including Sicily and Sardinia.....	3.0	6.5
Norway .....	1.5	..
Roumania .....	..	1.5
Russia and Finland .....	6.0	13.0
Sweden .....	2.5	1.5
United Kingdom:		
England .....	8.5	3.0
Ireland .....	43.0	24.5
Scotland .....	1.0	..
All other countries and fractions of per- centages disregarded .....	3.0	17.0
Total .....	100.0	100.0

The race of an immigrant is often of more importance than his nativity. For example, Hebrews born in England would be included with the English in statistics if the matter of birthplace alone were considered and misleading conclusions be reached. Unfortunately, statistics for race are not available for the admissions to the New York State Hospitals and so the table which follows refers only to insane immigrants detected at Ellis Island. The percentage which each race constituted of the total number of arrivals is given for comparison and those races which contributed a larger proportion of insane immigrants than of arrivals are marked by asterisks.

TABLE V.

Showing the race of 100 immigrants certified for insanity at Ellis Island, and, for comparison, the percentage of immigrants of each race in the total number of arrivals during the fiscal year.

Race or people	Percentage of arrivals	Certified at Ellis Island
African (black) .....	.2	1
Bohemian and Moravian .....	1.2	1
Croatian and Slovenian .....	3.3	1
Dalmatian, Bosnian and Herzegovinian....	.5	1
*English .....	3.3	12
Finnish .....	.8	1
*French .....	1.3	4

Race or people	Percentage of arrivals	Certified at Ellis Island
*German .....	8.1	12
Greek .....	2.3	1
*Hebrew .....	14.2	17
*Irish .....	2.2	19
Italian (north) .....	5.0	3
Italian (south) .....	25.1	9
Magyar .....	4.8	2
Polish .....	7.6	6
Roumanian .....	.7	1
Ruthenian (Russniak) .....	.7	..
Scandinavian .....	3.9	1
*Scotch .....	1.3	4
Slovak .....	3.9	1
Turkish .....	.2	..
Welsh .....	.2	2
Unascertained and all others.....	9.2	1
	100.0	100

It would be very desirable to compare more accurately the prevalence of insanity in the races of the "old immigration" with its prevalence in the races of the present immigration, but it is doubtful if a much better comparison can be made than by arranging a table to show the average annual immigration from each of the three political divisions which furnished the larger part of the immigration of twenty years ago and to show the ratio of the natives of each of these three countries in our public institutions for the insane to the whole number of natives of that country in the United States and then to compare this with a similar statement for the three countries which lead in the immigration of the present time. This is done in the following table, which is based upon the number of insane enumerated for the special report of the Census Bureau which has been referred to and the foreign-born population of 1900.

TABLE VI.

Showing, for the three political divisions which led in the "old immigration," the ratio of the insane of each nationality to the whole number of natives of that country in the United States and showing the same ratios for the three countries which furnish the greater part of the "new immigration."

## THE "OLD IMMIGRATION," 1880-1885.

Country or political division	Average annual immigration	Ratio of insane to population in U. S.
German Empire .....	174,109	One in 211
United Kingdom .....	145,798	One in 159
Scandinavia .....	69,665	One in 195

## THE "NEW IMMIGRATION," 1900-1905.

Country or political division	Average annual immigration	Ratio of insane to population in U. S.
Italy .....	176,650	One in 439
Austria-Hungary .....	176,514	One in 292
Russia and Finland .....	122,920	One in 380

It would seem from this table that even the substitution of Hebrews, with their remarkable susceptibility to mental and nervous disease, has not been sufficient to outweigh the effects of the long-continued accumulation of insane of Irish and of German birth, and that the surprisingly small number of Italians in the insane population will effect an actual reduction in the ratio of insanity among the foreign-born. That this conclusion is not warranted is evident when it is remembered that more than forty-seven per cent of all the Italians, Hebrews, and Slavs who have come to the United States have arrived since 1901. When the young Hebrews and Slavs of the immigration of to-day have been here long enough to develop the psychoses of later life with the frequency with which it has been shown that they develop those of adolescence, it is likely that, even disregarding the enormous increase in its volume, the "new immigration" will prove more adverse in its effect upon the prevalence of insanity than the "old immigration" has been.

It is disquieting to learn that, whatever doubt there may be about the exact prevalence of insanity in the races of the "new immigration," there is none about that of idiocy and other mental defect. The following table shows the race of 100 consecutive cases of idiocy, imbecility and other mental defect detected in immigrants at Ellis Island during the last fiscal year and, for comparison, the percentage of each race in the whole number of arrivals.

TABLE VII.

Showing the race of 100 immigrants certified at Ellis Island for idiocy, imbecility, and other mental defects, and, for comparison, the percentage

of immigrants of each race in the total number of arrivals of the fiscal year.

Race or people	Percentage of arrivals	Percentage of immigrants certified
African (black) .....	.2	..
Bohemian and Moravian .....	1.2	3.0
Croatian and Slovenian .....	3.3	5.0
Dalmatian, Bosnian and Herzegovinian ...	.5	2.0
English .....	3.3	2.0
Finnish .....	.8	..
French .....	1.3	1.0
German .....	8.1	8.0
Greek .....	2.3	1.0
Hebrew .....	14.2	29.0
Irish .....	2.2	1.0
Italian (north) .....	5.0	..
Italian (south) .....	25.1	34.0
Magyar .....	4.8	1.0
Polish .....	7.6	4.0
Roumanian .....	.7	..
Ruthenian (Russniak) .....	.7	..
Scandinavian .....	3.9	3.0
Scotch .....	1.3	1.0
Slovak .....	3.9	2.0
Turkish .....	.2	..
Welsh .....	.2	..
All others and unascertained.....	9.2	3.0
Total .....	100.0	100.0

It is seen that the percentages for the insane, given in Table V are almost reversed. It is doubtful if the disadvantage of admitting such mentally defective immigrants would not be as great as that of admitting an equal number of the insane, for a large proportion of the latter would undoubtedly become committed to institutions within two years and be deported, while most of the mental defectives would spend their lives outside of charitable institutions and be at liberty to transmit their defect to their children.

It may be of interest to consider, a little in detail, those peoples in which the prevalence of insanity has been found to be excessive.

The prevalence of insanity among the Irish in the United States has no parallel in the world. The ratio of the insane

to the whole population in Ireland (1903) was one in 203, while in the United States one in 121 is in an institution for the insane. Irish immigration for some years has been but a small factor, and this numerical decrease will soon give the Irish second place in the number of foreign-born admissions to institutions for the insane in this country.

England, too, has furnished a larger proportion of insane immigrants and insane residents of this country than it has of the total immigration or of the whole foreign-born population. The ratio of English patients in the New York State Hospitals to the number of natives of England in the State is about one in 209, while in England the ratio of the insane to the whole population (1905) was one in 288. The latter ratio is said to have been influenced by foreign immigration and the new "Aliens' Act" of England provides for the expulsion of aliens who, "within three months from the time at which proceedings . . . are commenced, have been in receipt of any such parochial relief as disqualifies one for the Parliamentary franchise."

In 1882, 250,000 German immigrants entered the United States while last year but 37,000 came. The number of insane of German birth is already decreasing and the practical cessation of German immigration makes it certain that the future prevalence of insanity among the foreign-born will not be greatly influenced by the part played by Germany in immigration.

The enormous increase in Hebrew immigration and the high prevalence of insanity among Hebrews make this race of especial interest in an analysis of the relation of the "new immigration" to the prevalence of insanity. Wherever the Jews have settled, their striking susceptibility to insanity has been made the subject of comment by medical writers. Lombroso states that in Italy insanity is three times more common in Hebrews than in the rest of the population. Dr. Maurice Fishberg, in an article entitled "The Pathology of the Jews," in the *New York Medical Journal*, March 30, 1901, quotes Dr. Sikowsky and Dr. Maximoff as saying (Proceedings of the XIIth International Medical Congress), that they had tabulated the prevalence of insanity in the Russians, Poles, Monhammedans, and Jews in the troops at Kieff in 1895-1896 and had found that the Jews furnished more cases of insanity than all the others combined, although they were in a



considerable minority. In the same article, Dr. Fishberg presents many other interesting references to the excessive incidence of mental and nervous diseases among Hebrews. In Germany, insanity is said to be twice as prevalent among Jews as among any other element of the population. In Warsaw, according to Dr. Raymond, Hebrews furnish all the psychiatric and neurological material for the clinics. In this country, the remarkable prevalence of insanity among the Jews had been noticed before the present influx of Hebrew immigrants had begun. Dr. Frank G. Hyde (*AMERICAN JOURNAL OF INSANITY*, Vol. LXIII, p. 471) stated that from December 13, 1871, to November 30, 1900, 10.05 per cent of all the patients admitted to the Manhattan State Hospital, West, had been Hebrews.

The ports of departure which furnished the greater percentages of insane immigrants during the last fiscal year were, in order: Queenstown, 15; Liverpool, 14; Bremen, 12; Glasgow and Londonderry, 11; Hamburg, 10; Italian ports, 9; Rotterdam, 8; Southampton, 8, and all others, 13. This is of interest in view of the probability that in the future medical officers of the Public Health and Marine-Hospital Service will be stationed abroad to examine intending immigrants at the ports of departure and there recommend the rejection of the unfit. Three officers—one at Liverpool, one at Queenstown and one at Glasgow—would have had an opportunity of intercepting 40 per cent of the insane immigrants who were detected at Ellis Island last year.

*Types of Mental Disease.*—The types of mental disease found in immigrants can be considered only very broadly within the limits of this paper. At Ellis Island, 47 per cent of the immigrants certified by the medical officers of the Public Health and Marine-Hospital Service for insanity were actually on their way to their native lands within two days after the diagnosis of insanity had been established and nearly all were returned to their ships to await sailing within twenty-four hours after they had been certified. It has been impossible, therefore, to determine with any degree of accuracy the psychoses existing in much more than one-half of all cases and, in some of these, further observation would doubtless have led to a revision of the diagnosis. The classification of the cases diagnosed is shown in the following table:



TABLE VIII.

Showing the clinical classification of the immigrants certified for insanity at Ellis Island during the fiscal year ended June 30, 1906.

Type of mental disease	Percentage of all cases	Percentage of cases diagnosed
Alcoholic psychoses .....	3.0	5.0
Dementia præcox:		
Paranoid forms .....	3.0	5.0
Hebephrenic forms .....	1.0	2.0
Katatonic forms .....	3.0	5.0
Allied types and not classified.....	16.0	28.0
Depressive hallucinosis .....	1.0	2.0
Involutional psychoses .....	5.0	9.0
Dementia from gross brain disease.....	2.0	3.0
Paresis .....	10.0	17.0
Paranoic conditions .....	6.0	10.0
Manic-depressive insanity:		
Manic attacks .....	1.0	2.0
Depressed attacks .....	2.0	3.0
Dementia from cause unknown.....	4.0	7.0
Senile psychoses .....	1.0	2.0
Not classified .....	42.0	..
	100.0	100.0

In the case of insane aliens deported from public institutions the average time under treatment had been two months and a diagnosis was possible in nearly all of them. The following table shows the classification of these cases. Those marked with asterisks were deported from jails or from institutions in which cases are not classified in accordance with some of the newer conceptions in psychiatry.

TABLE IX.

Showing the clinical classification of the insane aliens deported from public institutions during the fiscal year ended June 30, 1906.

Type of mental disease	Percentage of all aliens deported	Percentage of those insane at time of arrival
Alcoholic psychoses .....	4.0	7.0
Dementia præcox:		
Paranoic forms .....	3.0	..
Hebephrenic forms .....	4.0	4.0
Katatonic forms .....	5.0	4.0
Allied types .....	1.0	..
Not classified .....	32.0	22.0

Type of mental disease	Percentage of all aliens deported	Percentage of those insane at time of arrival
Depressions not differentiated.....	5.1	4.0
Depressive hallucinosis .....	3.0	..
Involuntary psychoses .....	2.0	4.0
Dementia from gross brain disease.....	1.0	..
Paresis .....	2.0	4.0
Paranoic conditions .....	4.0	8.0
Manic-depressive insanity:		
Manic attacks .....	2.0	8.0
Depressed attacks .....	1.0	..
Mixed forms .....	..	..
Allied forms .....	1.0	4.0
Not specified .....	5.0	1.0
Infective-exhaustive psychoses .....	2.0	..
Epileptic psychoses .....	2.0	..
Constitutional inferiority .....	3.0	4.0
Imbecility (with episodes) .....	2.0	8.0
Not classified .....	8.0	4.0
*"Acute melancholia" .....	1.0	..
*"Melancholia" .....	1.0	4.0
*"Depression with mental enfeeblement" ..	1.0	..
*"Delusional insanity with mental enfeeblement" .....	1.0	..
*"Acute mania" .....	2.0	..
*"Religious mania" .....	2.0	..
Total .....	100.0	100.0

*Dementia Præcox*.—This condition and the conditions allied to it constituted more than 40 per cent of the cases in which a diagnosis was made at Ellis Island and 45 per cent of the cases deported from institutions. In 810 cases admitted to the Manhattan State Hospital in 1905, dementia præcox or its allied types was present in 31 per cent. It is likely that dementia præcox is more prevalent in immigrants than in the natives of this country and more prevalent in immigrants than in the general population of the countries from which they come.

Many immigrants with dementia præcox may never gain admission to institutions for the insane and many more may get along in the alien colonies, which are found now in all large American cities for a considerable time without coming into noticeable conflict with their environment. Of the 39 cases of dementia præcox deported from institutions, in which these data could be obtained,

20 had been in the United States more than a year before being committed. The average length of time all such cases had been in this country before admission was 11 months and 20 days. A case illustrating the manner in which such immigrants who are insane on arrival may escape commitment until the period during which they can be deported has nearly elapsed is that of a young Austrian Pole who arrived in New York, February 1, 1905. He had always been religiously inclined as he had known from early life that he would die young and he had deserted his wife and come to America for reasons which were delusionary. A year and one-half after his arrival in the United States he attracted public attention and became committed to an institution because he knelt in the street and refused to eat in order to humble himself "as Christ had done."

It is especially desirable to detect such cases at Ellis Island and yet it is very difficult. Those medical officers who are detailed to this part of the inspection of immigrants gain a familiarity with the different racial types which is particularly useful in detecting these cases. What allowance to make for the emotional barrenness of the Ruthenian, the incredible ignorance of Macedonian peasants, or the abandonment to despair which is often seen in Italian women when they have met with some trifling reverse in their progress through Ellis Island, is almost as essential information for the successful mental examination of immigrants as knowledge of the special disease pictures or of the general symptomatology of mental disease.

In the entire absence of any history, the diagnosis between dementia præcox and congenital mental defect has often been found very difficult at Ellis Island and in a great many cases in which a positive diagnosis of dementia præcox could be made there was evidence also of a considerable degree of congenital defect.

*Paresis.*—As might be expected, this disease, with its prominent physical signs, is detected in many more cases at Ellis Island than its incidence among aliens in institutions for the insane would account for. Over seventeen per cent of the cases in which a diagnosis was made at Ellis Island and only two per cent of the cases deported from institutions were paretics. In only one of the latter cases was the disease thought to have existed before

the immigrant's arrival. A larger proportion of these cases than of any other type arrived in the saloon or second-cabin; a fact which corresponds interestingly with the social status of this disease.

*Manic-depressive Insanity.*—Five per cent of the cases in which a diagnosis was made at Ellis Island were of manic-depressive insanity and several of the cases not diagnosed were probably of this type. Depressions not well differentiated are included, in Table VIII, with those "not classified," for it was thought best not to place them under a separate head for fear of giving the impression that indeterminate depressions constituted a large part of the psychoses met with in immigrants while in reality the only reason that most of them could not be diagnosed was the very short period of observation. Two cases of manic-depressive insanity who had been previously detected and deported returned, recovered, during the year but they were recognized and not admitted. It is likely that many such cases come to this country during remissions and secure admission for, of the aliens deported from institutions, in whom a history of insanity in Europe could be obtained, 23 per cent were cases of manic-depressive insanity. The greater number of such cases must inevitably escape detection at Ellis Island.

In 37 per cent of the aliens deported from institutions, who were not insane at the time of arrival but who developed their mental disease from causes existing prior to arrival, the etiological factor given was "constitutional inferiority" or "congenital defect." Among the immigrants held for mental examination at Ellis Island, there are many in whom mental inferiority or instability is most apparent and it is with the greatest reluctance that the medical officers release them because they cannot be certified, in the wording of the law, as "insane." A case which is typical of many was a young Croatian who arrived recently. His father had died when he was young and he had been brought up by an uncle. When he became 19 years of age his mother convinced him that it was his duty to come to America and return with enough money to pay off a mortgage which had remained on her little farm since the death of his father. Although he did not become enthusiastic over this plan the boy agreed. Two days before leaving home, he almost decided not to come but he feared

the ridicule of his neighbors. On the ship he could think of nothing, he said, but the possibility of dying in this country and never seeing his mother or his home. When he was detained at Ellis Island he had decided to return. The possibility of succeeding in this country, the humiliation of facing his mother and his relatives and appeals to his pride only made him undecided about the matter. He had no abnormal fears or delusions and was not depressed, but he had reacted abnormally to the first experience which tested his judgment and his self-reliance. It seems unwise to admit such immigrants but under the present law there is no means by which they can be excluded.

The insane aliens deported from institutions have an especial interest for those engaged in the examination of immigrants at Ellis Island as they represent, in some measure, the cases which have escaped detection. In the group of 100 consecutive cases of such aliens which has been taken, 26 had been insane before coming to the United States, 54 developed their mental disease after their arrival and in 20 cases these data were unobtainable. Of the 26 thought to have been insane at the time of arrival, 23 per cent were, as has been stated, cases of manic-depressive insanity and 8 per cent were cases having paranoic conditions.

At first thought it would seem a hopeless task to attempt to pick insane and mentally defective immigrants from the unending lines of humanity which file through Ellis Island but a systematic plan of inspection has been devised which results in the detection of many. Officers of the Public Health and Marine-Hospital Service who have had especial training in institutions for the insane are assigned to this duty and the other medical officers unite with them in searching for immigrants who seem atypical or who present signs even remotely suggesting mental disease. The Immigration Inspectors, who have to question all immigrants as to their destination, education and many other matters, have been provided with memoranda as to peculiarities which might suggest the existence of insanity or mental defect and are requested to return immigrants presenting such abnormalities to the medical officers. Occasionally immigrants who have shown marked evidences of insanity during the voyage are reported by the ships' surgeons but, of course, immigrants very obviously insane or defective would be refused passage at the



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ports of embarkation. Immigrants in whom, for any of these reasons, mental disease is suspected are detained, after a preliminary examination, for observation and further examination. Recently, rooms have been set aside for this purpose and a very noticeable increase in the number of cases detected has occurred. A large, separate pavilion in which many more such cases may be detained and observed has been authorized and a psychopathic pavilion in connection with the Immigrant Hospital is being constructed. In the latter pavilion certified cases of insanity will be kept until the return of the ships which brought them and acute cases requiring treatment will be cared for until they are in condition to be returned with entire safety. These additional facilities, the provision of trained attendants to aid in the observation of cases detained and of especially qualified interpreters to assist in examinations will undoubtedly lead to a large increase in the number of cases of insanity and mental defect detected.

Many plans, most of which must be rejected as impracticable, have been suggested for controlling the hereditary transmission of insanity and mental defect and thereby limiting the steady increase in the prevalence of insanity, but in a rigid and systematic mental examination of immigrants we have a measure for the prevention of insanity which can be applied to a million prospective residents of this country every year. This duty entrusted to the Public Health and Marine-Hospital Service presents an opportunity of performing a public service such as is afforded to few other officers of the government. By the detection of the greatest possible number of insane and defective immigrants at Ellis Island, not only will the country be saved the burden of maintaining a large number of alien insane, which has already been proved so costly, and the admission of many who will bequeath their defect to the next generation, but a considerable number of immigrants who would otherwise become committed to institutions within two years after landing can be turned back at the time of their arrival instead of being torn from their relatives after they have established homes in this country.

These unfortunate people come here unconscious of their mental disease and not infrequently influenced by delusions or led by their impaired judgment to take a step which even their friends

think inadvisable. Others are borne along, as are many of sound mind, by the great tide of immigration with little plan except to reach the wonderful "Amerika" where failures can be easily retrieved and broken fortunes mended. They are deported solely for our own benefit, for it is only in very rare instances that the welfare of an insane immigrant is promoted by returning him to his home. Therefore the simplest requirements of humanity make it obligatory upon those charged with the administration of the immigration laws to effect the deportation of insane aliens with every safeguard which their condition demands. Whatever treatment is necessary to tide them through an acute or dangerous phase of their disease should be provided without reference to the cost or duration and all insane and many defective immigrants should be returned with trained attendants to accompany them to their final destination, securing for them humane treatment during the journey and finally delivering them to their relatives or to the proper charitable authorities at their homes. The new immigration law which goes into effect July 1, 1907, makes especial provision for this and makes it possible to perform an unwelcome but necessary duty with kindness and humanity.

In spite of the most effective inspection which can be devised, there must every year be admitted many immigrants already insane and many thousands who are destined, under the unusual stress of the first ten years in the United States, to become insane. So remarkable is the prevalence of insanity among recent immigrants becoming, that it seems an urgent public duty to investigate the conditions which are proving so disastrous to them and to take some measures which will protect the more unstable from the development of mental disease with such abnormal frequency.





## THE CEREBRO-SPINAL FLUID IN PARESIS; WITH ESPECIAL REFERENCE TO ITS CYTOLOGY.

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The year 1901, or ten years after the introduction of lumbar puncture by Quinke as a diagnostic and therapeutic measure in the meningitides, marks the general use of the procedure in neurology and psychiatry. The monographs of Monod (1), Sicard (2), Widai and Ravaut (3), quickly stimulated interest in the subject, especially in France, and other contributions followed in short order, the most important being those of J. Nageotte (4), E. Dupré and A. Devaux (5), Duflos (6), Séglas (7), and Joffroy and Mercier (8). Since then from all sides a mass of literature has accumulated, the size of which may be well estimated from Kaupe's (9) collective review, in which he gives 487 references from the literature of 1904-5-6 alone. Of this only a small part has been produced in America, and one may thus infer that the diagnostic value of the procedure as yet has not been fully appreciated here.

The cerebro-spinal fluid occupies the subarachnoid space of brain and cord and forms a thin watery envelope for the entire central axis of the nervous system. This fluid normally clear and limpid with a specific gravity of about 1007, and variously estimated from 60 to 80 cc. in total quantity, contains a very few lymphocytes and polymorphonuclear neutrophiles. Chemically the fluid is slightly alkaline and contains about 1 per cent solids, of which 0.8 per cent is inorganic and the remainder organic, chiefly proteid. The amount of the latter is given by Quinke as 0.2-0.5, Riecken 0.5-1 and Gumprecht as 0.25 parts in a thousand. Halliburton and others have shown that this proteid is a globulin, and that albumin does not normally occur. Mott, Halliburton, and Gumprecht have found traces of choline, and finally a reducing substance, described by Halliburton as allied to pyrocatechin, but by Nawratzki and others as dextrose has been shown to be present.

The fluid is held in the subarachnoid space under a certain tension, which has been found to vary directly with the venous pressure in the sinuses, or in general with the intracranial venous pressure, and normally shows rhythmic variations corresponding to the Traube-Herring waves of general blood pressure. Kronig found in 12 normal individuals that the pressure of the fluid averaged 125 mm. water in lateral decubitus and 400 in sitting position.

It is easy to see from both anatomical and physiological standpoints that pathological changes in meninges, brain or cord would produce some alteration in one or more of the characteristics of the fluid, and it was not long before a large number of diseases of the central nervous system and cranial vault were found to do so. It is beyond the scope of this paper to dwell on the changes accompanying the meningitides, hæmorrhage, brain tumor, abscess, hydrocephalus, etc., in some of which marked alterations in appearance, amount, etc., are found. But there is a group of diseases, including syphilis of the nervous system, tabes, and paresis, where a normal appearing liquid is obtained, but which on closer microscopical and chemical examination discloses well-defined pathological characteristics. To this group, especially paresis, the following paper refers.

Since the introduction of lumbar puncture as a clinical method the fluid has been subjected to examination on the following points: (a) the number and character of the cells, (b) the proteid content, and (c) the appearance, amount, and pressure. Other procedures, such as the determination of the freezing point, the electrical conductivity, the amount of choline and reducing substance, as well as bacteriological and hæmolytic investigation have been introduced with varying findings, whose value are in general as yet undetermined. The first three have yielded definite and valuable results. The cytological examination is easily the most important, so much so that the term "cytodiagnosis" has been used to cover the entire technique.

Until recently the centrifuge method of Widal and Ravaut has been used to collect the cells in sufficient numbers for microscopical study. This, in brief, is to take a certain amount of fluid and centrifuge at high speed, decant and spread the remaining portion on a slide, fix, stain, and estimate the number of cells found in a 1-12 inch oil immersion field. It can readily be seen

that this method is open to serious errors. Nissl (10), and others have expressed their dissatisfaction with it and wished for a better technique. It is subject to variation not only in the hands of one observer, but offers no possibility of comparison with the results of others. The speed and duration of the centrifuging, the manner of decanting and spreading, and the counting itself all may vary so far beyond the limit of permissible error as to entirely invalidate the results. Further, the bruising to which the cells are subjected causes all manner of distortions and seriously interferes with the tinctorial reaction. In this way it is difficult and often impossible to recognize the different cell elements, and indeed, sometimes to distinguish a lymphocyte from a red blood corpuscle. As a corollary a differential count is frequently out of the question. It is evident that the inaccuracies of the method would affect the most of those cases where the fluid has a small but definite cell increase, or just those chiefly early ones, in which an accurate determination is most desirable and where an otherwise positive count is reported as negative.

Laignel and Lavastine (11), made the first advance toward greater accuracy by introducing the use of an ordinary blood counting slide, but as they first centrifuged, their results are largely open to the same objections. Fuchs and Rosenthal (12) three years later did away entirely with the centrifuge, and devised a method of examining directly the undiluted fluid. A special slide, constructed by Zeiss, was provided similar to the ordinary blood counter but with the cell chamber 0.2 mm. deep and rulings 4 mm. on a side or containing 3.2 cubic mm. Their technique required in addition only an ordinary leucocyte pipette and a staining diluent. The latter, consisting of methyl violet 0.1, glacial acetic 2, and distilled water 50 parts, was sucked up to the 1 point, and the pipette then filled to the 11 mark with uncentrifuged fluid as soon as obtained from the needle, and shaken. After allowing several minutes for staining the pipette is carefully shaken for five minutes and a drop placed on the slide. The whole field is counted over in at least two slides, and the average obtained. The number of cells in the cubic millimeter is calculated from the formula  $x = \frac{11a}{32}$  in which  $a$  is the total count and  $x$  the actual number in one cubic millimeter or approximately  $x = \frac{a}{3}$ .

This method has the great advantage in providing a definite unit of measurement which permits for the first time comparison of one observer's work with another, and having less chances of error, is accurate within safe limits. Furthermore much time is saved, in fact it is possible after the fluid is obtained to say within a few minutes whether or not a leucocytosis is present.

In a series of 12 cases of paresis Fuchs and Rosenthal found from 15 to 196 cells to the cubic millimeter, while in 6 neurological cases not luetic the count varied from 0.5 to 2, and in 9 others not neurological from 0 to 2 cells. They mention the possibility of making a differential count simultaneously by means of the methyl violet diluent but do not report any in their communication. In my own series I found this diluent frequently stained the red corpuscles, which in varying numbers are practically always present, so as to offer serious difficulty in differentiating them from a lymphocyte; and furthermore so disturbed the osmotic relations of the white cells as to cause bursting and other distortions. Finally a differential count was difficult if not impossible as the structural features of the whites were too poorly brought out. The use of Unna's polychrome methylene blue was found to obviate these difficulties. The stain is used undiluted as furnished by Grüber & Company, and is drawn to the 0.5 mark (in so doing  $x$  comes more nearly to equal  $\frac{a}{3}$ ) the pipette shaken and allowed to stand

5 to 10 minutes when the cells are well stained. The tube is then carefully shaken (I found two minutes amply long enough) and after rejecting the first two, the third drop is put on the slide and the whole field counted over, simultaneously making a differential count. If the first two slides do not approximately correspond a third or fourth should be used. The average is taken and divided by three giving the total leucocytosis in one cubic millimeter. The ordinary red-blood slide with Türk rulings may be substituted for Rosenthal's. Here also the whole field is counted and the average (at least three drops being used) is the number of cells in one cubic millimeter; since  $3 \times 3 \times 0.1 = 1$  (approx.). On account of the smaller amount of fluid taken the chances of error are increased. The polychrome blue stains the leucocytes well enough to permit a good differential count. The finer structures are not brought out as well as would be the case could the proper

fixing agents be employed, but are sufficiently apparent for practical purposes. The red cells are unstained and cannot be mistaken.

The technique of obtaining the fluid is too well known to warrant any detailed description. Nearly all my cases were punctured in the sitting position, in which it is possible to have the back well arched. It is also more convenient for the operator. Ethyl chloride as a local anæsthetic was used in all the cases with a few exceptions where the patient was in advanced dementia, and was found of great assistance, often no pain at all was experienced. Only twice in 65 punctures was any general anæsthetic necessary, once with hyoscin-morphine-chloroform in a very nervous and apprehensive man, and once with ether in a paretic who fought against the procedure. As for the time of operation, I found the evening convenient. Artificial light is quite good for cell counting, and then the patient who perhaps is an ambulatory one, may at once be returned to bed and kept there until the following noon. By so doing in the large majority of instances all post-puncture symptoms i. e., general malaise, frontal headache, nuchal and lumbar pain, nausea and vomiting, may be entirely averted. Platinum needles are by far the best, they should be furnished with platinum plungers. Such needles are more easily and quickly sterilized, are somewhat pliable, may be easily sharpened and do not rust. The interspace between the fourth and fifth lumbar vertebrae was usually used, sometimes the one between the third and fourth. Before referring especially to the cytological side of the fluid let us consider the pressure and protein content.

#### PRESSURE.

For measuring the pressure various modifications of a water manometer have been used, such as that described by Eve (13), or that introduced by Cushing at Johns Hopkins Hospital. With similar technique Shaefer found the pressure in paresis averaged 184 millimeters  $H_2O$  (lateral decubitus) Nawratzki and Arndt in 14 cases obtained an average of 113, and Tanner in 14 cases got varying results from 70 to 320. Nissl found the pressure quite variable, even in the same case at different punctures. My own observations confirm his results. In 34 cases the pressure was estimated as increased 14 times, normal in 11, and diminished in 9. The factor probably determining the pressure is primarily



the blood pressure which is in turn influenced by the emotional state of the patient, struggling, etc., to a less extent an increased amount of fluid or a hydrocephalus *ex vacuo* from brain atrophy. In view of the slight average change usually found it seems unnecessary to use any of the more or less elaborate apparatus. From the way the liquid flows from the needle an approximate idea may be formed of the tension; if it spurts in a stream which is maintained for some seconds we may safely assume it is increased, but if it only emerges in fast coming drops the pressure is diminished. Whether or not apparatus is used one must never neglect to pass the plunger through the needle before making any estimate, as often a small plug of tissue picked up en route so bars the lumen that the fluid can only trickle through in slow drops, or sometimes is entirely stopped—the cause of many a “dry puncture.” Sometimes the needle is inserted too far and may impinge on the opposite wall of the canal and thus prevent a free flow. On this account it is always best to manipulate the needle forwards and backwards to find the point where the greatest flow is obtained. There seems then a consensus of opinion that the pressure in paresis does not depart much from normal, and is in general a negligible factor.

#### PROTEID.

The estimation of proteid on the contrary is most important. Most observers have followed Sicard in the opinion that the fluid normally contains no serum albumin. Nissl and Merzbacher, however, have found traces of the latter. All agree that it is definitely increased in paresis, forming 1 to 3 parts p. m. Guillain and Parant introduced a clinical technique for precipitation of the globulin by addition of equal parts of saturated magnesium sulphate. After filtering and boiling a normal fluid would remain clear. Nissl objected to this method, claiming that all of the globulin is not precipitated by the magnesium, but some would remain to be mistaken for serum albumin on boiling. At Cohnheim's suggestion he substituted a concentrated ammonium sulphate solution and obtained a complete precipitation of the globulin. The latter, he believes, plays no essential role in pathological fluids. Others hold it is unnecessary to separate the proteids, if indeed such a thing is possible, and at the present state of our

knowledge it is sufficient to estimate them together with such a reagent as Esbach's. With this precipitant various clinical quantitative methods have been introduced. Nissl used a special centrifuge tube with an arbitrary scale which could not be reduced to grams per liter and consequently is not practical. Nageotte's method employing a 1-10 dilution and giving readings of 0.1 gram for each gram of fluid is better. Rous' (14) modification of this is more accurate. But for ordinary clinical purposes the simple test-tube method of Nissl-Cohnheim is sufficient, and has the advantage of being quickly performed. This is the method used in this series of cases. To repeat, equal parts of fluid and saturated ammonium sulphate are shaken together, and the precipitated globulin filtered out. The clear fluid is then acidified with acetic and boiled. If the albumin is considerably increased a coarse flocculent precipitate results, if only slightly a well marked turbidity instead. In 31 consecutive punctures I found the increase of albumin constant—a result in accordance with practically all observers. Seven times it was "considerably" increased, and three "much" increased. There was also an accompanying increase of globulin in 10 out of 24 fluids. I was able to deduce no constant relation between the amount of proteid and the stage of the disease, although generally speaking it appears that the further the disease advances the more is found. In paresis a proteid increase invariably means an increase of cells.

#### CYTOLOGY.

That there is a clearly defined increase in the cells found in the paretic cerebro-spinal fluid nearly all observations are in accord. Fuchs and Rosenthal in 208 cases collected from the literature found 10, however, with no increase, and Dupré 1 in 20, Joffroy 3 in 48, and Meyer 1 in 13. Fischer (15) and others also report negative findings. These instances of failure to obtain a cellular increase in clinically clear cases would seem entirely due to errors inevitably associated with the centrifuge technique. On the contrary with this method Nissl's 60 punctures in 28 cases and Merzbacher's 26 were all positive. Fuch's and Rosenthal's 12, and Rehm's 39, both with the slide-counting method, were also positive.

In my series 25 cases were punctured 37 times, all with clearly positive result. This inclines me to the opinion that every case of

paresis without exception shows a cellular increase. The total cytosis without reference to the stage varied from 12 to 216, with an average of 52. Opposed to this is the average of 2 in 21 negative punctures, which from a cytological standpoint may be classed as normal. The range here was from 1 to 4. There seems to be a sharp limit between positive and negative, the latter having 5 as the furthest limit. In view of the constancy, the importance of lumbar puncture in paresis becomes more apparent when we consider that any one or more of the cardinal signs and symptoms of the disease may be absent, or subject to great variability. Admitting its constancy, the question then arises, how early does it occur? Marie and Duflos considered it antedates the ocular, speech, and memory defects. Joffroy states: "There is no sign pathognomonic of paresis, but of all the signs of the disease the cerebro-spinal lymphocytosis is the earliest and most constant." Except in one instance I regret I have not had the opportunity to examine the fluid in very early cases. This was a man of 29, who had probably had syphilis 9 years previously, in whom mental symptoms had been present only three weeks. The fluid showed a count of 12, the lowest of the series. Two months later it was 25, the disease having advanced rapidly in the meantime. The pathology of the disease as far as known would suggest that the early stages show a small leucocytosis. This, indeed, seems to agree with the findings. The terminal stage, excluding convulsive conditions, gives a high count. Intermediate is a period in which one is unable to correlate the cytological findings with the mental symptoms. A case in the second stage with the cardinal signs, neurological and mental all developed and with considerable dementia may give a count from 20 to 50, while a case apparently not so advanced gives 100 to 150.

In the 21 negative fluids the cells ranged from 1 to 4. The small number renders any differential estimate liable to large inaccuracies, but by counting over a larger number of slides the chance of error was lessened. In the normal fluid the lymphocytes predominate, but polymorphonuclears are apparently always present and ranged from 10 to 50 per cent, with an average of 20 per cent.

The large majority of fluids are contaminated more or less with red blood corpuscles. This is usually unavoidable. A small amount of blood picked up by the needle in its passage through

the tissues is carried into the subarachnoid space or (2) may result from a slight hæmorrhage about the dural puncture site, or (3) from perforation of small veins in the wall of the vertebral canal. Usually the small admixture may be disregarded, but when the number much exceeds 200 correction must be made for the hæmic whites; the proteid test is also interfered with. It is better that such a specimen be rejected, and another puncture made later.

In the paretic fluid, with the above technique the following varieties of leucocytes may be found:

1. Small lymphocytes. 5-7  $\mu$ . Cytoplasm unstained and visible as a small clear ring about the nucleus, which is usually a fairly dark violet, but sometimes light blue. This is the most frequent cell and varied from 45 to 97 per cent.

2. Large lymphocytes. 7-12  $\mu$ . Cytoplasm more abundant, staining pale blue, the nucleus darker, varying from 0 to 15 per cent, with an average of 4 per cent.

3. Polymorphonuclears. 7-12  $\mu$ . Cytoplasm quite deeply violet. Granulations poorly made out. Nucleus somewhat darker and denser violet than rest of cell. Easily distinguished from the lymphocytes by the depth of stain. In 18 consecutive fluids, these cells ranged from 1 to 56 per cent, and averaged 18 per cent.

4. Epithelioid. Often larger than (3) and irregularly shaped, but sometimes round. The cytoplasm more evenly stained, nucleus small in relation to the cell, and clearly defined. Of infrequent occurrence and apparently an accidental inhabitant.

5. Plasma cells. 7-8  $\mu$ . Usually elliptical but may be round. Nucleus occupies an eccentric position and stains rather deeply with clearly defined edges. Cytoplasm prominently and often irregularly stained, and contains frequently fine granules or inclusions staining darkly. The cell is easily recognized by the eccentric nucleus, and prominent cytoplasm which often appears to have a definite envelope. In some fluids it is the most striking element present. It was found in 27 out of 32 consecutive punctures, ranging from 0.1 per cent to 15 per cent, and averaging 1.5 per cent. Nissl (10) and Merzbacher (16) did not find plasma cells in their material, for which the centrifuge is undoubtedly to blame. Fischer, with an improved centrifuge technique, found them present in greater proportion than my series.

6. Degenerated cells. The so-called "clear elements." 10-15  $\mu$ .

They are of frequent occurrence, and stain difficultly or not at all except for small beads or wreaths of chromatin material variously placed. Their appearance often suggests that they are degenerated polymorphonuclears. Rous (14) has convincingly shown however, that they may represent disintegrating lymphocytes. But there is no reason to believe the autolysis should not affect all the leucocytes. In fluids where these cells are numerous the tinctorial reaction of all the others seems generally impaired. Either autolysis in such fluids has been active, or the cells have been long floating free, a point which is impossible to decide.

I have not been able to correlate any particular differential combination with any one stage of the disease, except that after convulsions, where a marked relative and real increase in the polymorphonuclears occurs, a fact to which Widal and Lemierre first called attention. This was of constant and striking occurrence in all the cases with seizures examined.

Case M, with 23 cells of which 74 per cent were mononuclears, 12 per cent polymorphonuclears, and 12 per cent plasma was again punctured immediately after a series of 6 convulsions when the total leucocytosis was 30, but the differential now showed only 55 per cent mononuclears and 42 per cent polynuclears, while 2 per cent were plasma cells.

Case F, had a leucocytosis of 27, with 95 per cent mononuclears and 3 per cent polynuclears. One and a half hours after a seizure the count was 111 with 54 per cent monuclears, 55.8 per cent polynuclears and 0.2 plasma cells.

Case G, an hour after a convulsion, showed 31 per cent polymorphonuclears, 68 per cent mononuclears, and 1 per cent plasma cells.

It is evident then that even in paresis we do not always find a lymphocytosis alone, hence the use of this term is misleading and inadequate and it is still more so in other conditions where the percentage of polymorphonuclears is very high. To obviate this difficulty Fischer has suggested "cerebro-spinal pleocytosis" which, besides being objectionable on account of the unnecessary introduction of a new term, is not so acceptable as "spinal leucocytosis" since the latter plainly indicates that the *white* cells are increased without implying the predominance of any one kind.

It is not the intention in this article to dwell on the fluid as



found in the various acute meningitides, where the cells vary from hundreds to thousands, mostly polymorphonuclears, and the fluid itself of varying degree of turbidity, or that found in hæmorrhage, abscess or other acute infective diseases within the cranial vault, but to refer briefly to those diseases where the differential diagnosis of paresis comes into consideration. They may be divided into two groups, (1) those in which the fluid may simulate that of paresis, and (2) those where there is no similarity, but where the clinical symptoms offer possibility of confusion.

1. (a) Cerebral syphilis. In this condition cytodiagnosis so far has been no aid. If we cannot make the differentiation on clinical grounds by the presence in brain lues of more limited somatic phenomena, such as ocular and facial palsies, cephalalgia, neuralgia of the trigeminus, and hemiplegia, as well as from the history of recent specific infection, we must, as McDonald (17) suggests, fall back on the result of anti-syphilitic treatment, often necessarily prolonged, to help us out of the dilemma. In the only case in my series the total count was 34, of which 88 per cent were small lymphocytes, 6 per cent large lymphocytes, 5 per cent polymorphonuclears, and 2 per cent plasma cells. Serum albumin was slightly increased, and the pressure apparently normal.

(b) Tabes likewise has a similar fluid, but offers usually no diagnostic difficulty as far as differentiation is concerned, unless the tabetic process is associated with paresis. The only case in my series gave a leucocytosis of 37, 81 per cent of small lymphocytes, and 15 per cent polynuclears. Serum albumin slightly increased; pressure normal.

(c) Syphilis in secondary and tertiary stages may give a leucocytosis depending on the degree of involvement of the nervous system. Even with the latter, negative findings have been reported. Unless the infection has advanced into cerebral lues there is, however, no likelihood of confusion with paresis.

(d) Multiple sclerosis. As yet the obscure pathology of the disease offers no suggestion as to whether or not we should expect a spinal leucocytosis. The results of puncture have been variable. In 24 cases reported by Babinski, Nageotte (18) and others (cit. Merzbacher) 18 were positive and 6 negative. Fuchs and Rosenthal's 10 cases were all positive. In my one case,

which in some points suggested paresis, a negative result was obtained.

Thus a leucocytosis, mainly lymphocytes, in a clear fluid with increased albumin is not pathognomonic of paresis. The conclusion that we are in presence of the latter can safely be made only by process of exclusion of all other sources to which they may be attributed. Certain it is that there can be no doubt in our diagnosis when we have a positive puncture in connection with various combinations of the other signs and symptoms. A negative finding, on the contrary, is of great or even greater significance in differential diagnosis. This brings us to the second group of diseases which in some stage may simulate paresis, but give a negative puncture. This includes the following:

- (a) Arterio-sclerotic psychoses.
- (b) Chronic delusional states.
- (c) Chronic alcoholic psychoses.
- (d) Hypomania post apoplexiam.
- (e) Certain maniacal and hypomaniacal states.
- (f) Dementia præcox.
- (g) Epilepsy.
- (h) The psychoneuroses.

Since the psychic symptoms of the paretic process are protean in their variability, and a cross-section at any one phase of the disease may be confused with any one of the above, the importance of lumbar puncture is evident. It is not always, however, such clear sailing, for in practically all of the group under consideration positive punctures have been found. Merzbacher (16) and Rehm (19) claim that a leucocytosis under such conditions is certain evidence of a preexisting luetic process. According to the former 90 per cent of all having a previous lues would show a leucocytosis, but without an increase of albumin. To my mind this is needlessly confusing the subject. I have had a number of cases of dementia præcox, hysteria and chronic delusional states in which syphilis was positively shown to have been present from 4 to 15 years previously, and one case (dementia præcox) where the infection was incurred synchronously with the onset of the psychosis, yet the spinal fluids on every occasion, and several were punctured two and three times, was cytologically negative with normal proteid. This, for one reason, inclines me to strongly

believe that a spinal leucocytosis in this group should be regarded as a complication and that we are dealing in addition with a syphilitic or parasyphilitic process. To this view Pomeroy (20) in a recent article also inclines. However, only a small per cent of the cases in this group give an antecedent syphilis.

It has just been said that a negative puncture is of more value than a positive. But to be sure it is negative two or even three punctures should be done at intervals of not less than two weeks or if possible longer.

The diagnosis of paresis in the face of a negative finding should be made only with the greatest caution, and if one or two subsequent punctures at intervals of several months are also negative the affection is beyond doubt not paresis.

The question of the origin of the cells found in the fluid has given rise to much discussion and almost as many theories as authors—many of these diametrically opposed to one another. Inseparably connected with it is the question of the origin of the fluid itself, which most physiologists agree is a transudate from the blood and lymph vessels all along the pia-arachnoid surface, as well as the choroid plexus and the ventricles, the fluid from the latter being in communication with the subarachnoid space through the foramen of Magendie, the foramina of Luschka, and perhaps other places.

To explain the lymphocytosis in luetics and paraluetics where no clinical signs of a meningitis were demonstrated as well as that in paresis, Babinski and Nageotte introduced the term "meningeal irritation." The expression came into general use by French writers but was strongly opposed by Nissl and especially Merzbacher as being hypothetical and entirely without pathological basis, and has since fallen into disuse. Instead closer attention has been paid to the pathological histology of these conditions, especially paresis. In the latter the lesion associated with the spinal leucocytosis is the subacute or chronic periarteritis and pia-arachnoiditis which produces an inflammatory infiltrate into and about the adventitial sheaths of the pial vessels. Between the cells which form this exudate and those in the fluid, Nissl (10) and Merzbacher (16) could find no correspondence, noting especially as evidence of this the apparent absence of plasma cells in the latter, while they are numerous in the adventitial infiltrate.

To account for this discrepancy they fell back on the previous syphilis which they state so alters the meninges that certain cells can gain the fluid, without, as is frequently found, any pathological alteration in the meninges. In Merzbacher's series of paresis he states that only those with previous lues gave a lymphocytosis. This extreme view, with which Abraham and Ziegenhagen (21) agree, brings up the much mooted question of the relation of paresis and syphilis.

Erb and Fournier have led the van with the axiom "no syphilis, no paresis," and for many years the latter, with tabes, have been considered "parasyphilitic" diseases. Others have taken a less radical view. Ziehen found only 60 per cent of his cases had syphilis, others have reported still smaller percentages. To-day the trend of opinion is that lues is entirely a secondary factor, preparing a suitable soil already predisposed by heredity. The importance of alcohol especially when taken during the active syphilis as another secondary element has recently been emphasized by Kræpelin. The specific etiological factor is yet to be discovered, but a clear understanding of the rôle of syphilis would mean a great advance toward the coveted goal, and incidentally throw light on the origin of the cells in the fluid. The chief obstacle in the past has been the difficulty of obtaining a reliable anamnesis. It is often impossible for obvious reasons to determine the question of syphilis in a given case. Of my series of 25 paretics, only 7 had positively had syphilis, 6 probably, 4 surely negative, 4 probably negative, and in 3 no data could be obtained. But important light has recently been shed on the question by the serum work of Wasserman and Plaut (22) in paresis and Schütze in tabes. The former tested by hemolysis the presence of syphilitic anti-bodies in 40 paretics. The reaction was positive in 31, negative in 5, and partial in 4. Schütze (23) in 12 cases of tabes had a negative reaction in 4 who had denied previous lues. That is in 53 cases of so-called "parasyphilitic" disease there was no syphilis in 9. This work, if confirmed, would go far to prove the essential independence of syphilis and paresis. Further confirmation of this is the failure to find spirochætæ in any state of general paralysis. (Marinesco and Minea, and Catola (24).) The writer is consequently inclined to the opinion that syphilis *per se* has nothing to do with the spinal leucocytosis of paresis.

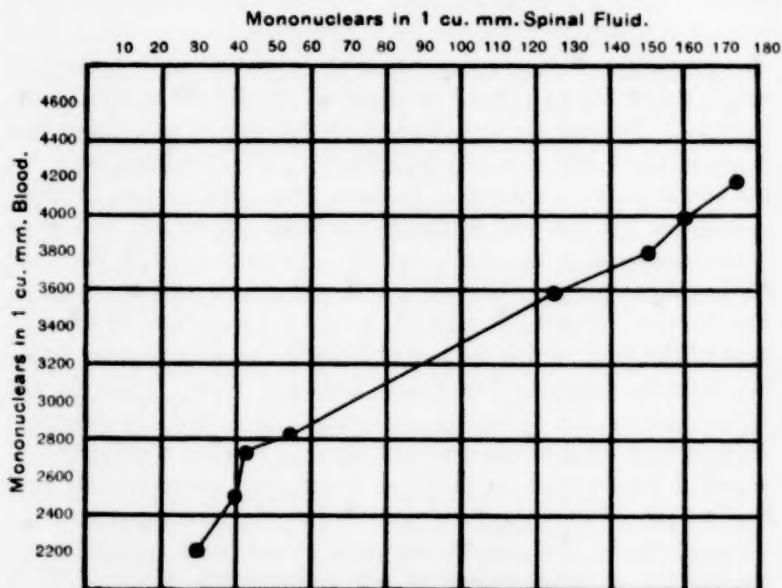
The failure to find a relation between the cells of the fluid and those of the meninges as reported by Nissl and Merzbacher seems due to fault in the centrifuge technique, as is also pointed out by Fischer (15) in an important recent monograph. This writer centrifuged at not more than 2000 revolutions for 20-30 minutes, having previously added formalin sufficient to make a 5 per cent solution. With this modification very little distortion occurred. The liquid remaining after decantation, was then spread on slides, heated on a copper bar at  $120^{\circ}$  and stained with hæmatoxylin and eosin. Having obtained excellent cytological pictures in this manner, he was able to show the close relation between cells of fluid and meninges. In a series of cases examined post-mortem in which a previous puncture was made he compared the cells of the fluid with those of the meninges at various levels, and found that there was a qualitative and quantitative correspondence only for the lumbo-sacral meninges. In cases where this region is uninvolved but the cerebral meninges markedly infiltrated, this close inter-relation does not hold, and the cells recovered in the fluid in the latter case, may be so few in number as to indicate a negative finding. This is occasioned, he states, on account of the current of the fluid, which is upward from the pontine region, draining into the venous sinuses and emissary veins. Even in the spinal portion the movement is upward as judged by injection experiments (Sicard, Retzius and Key). Fischer concludes that a spinal leucocytosis is only the expression quantitatively and qualitatively of a meningitis spinalis inferioris, which may be quite circumscribed. His results are open to criticism owing to the absence of an exact means of cell enumeration, the centrifuge method, as already said, being too inaccurate when dealing with small numbers of cells. Further his findings in regard to the upward movement of the fluid have not been confirmed. He admits that there is a general meningeal involvement in paresis, but, while calling attention to the local differences in intensity which give varying results on puncture depending on the relation to the course of the fluid, he fails to show that a positive puncture is ever really absent. His work is very suggestive, but points to the need of further clinico-anatomical comparative study, as well as experimentation on the course of the fluid.

Apparently the fluid cells are those of the adventitial infiltrate



of the pia-arachnoid, which in turn are primarily of vascular origin, the vessel walls being in some way so altered as to permit a diapedesis of the white corpuscles, chiefly lymphocytes. In support of such a theory is the sudden appearance of polymorphonuclears in the fluid after seizures which is hardly conceivable unless by the rapid process of diapedesis.

The fact that the blood in paresis shows a lymphocytosis no one as yet has called attention to. This is a real rather than apparent increase. Frequently the relative percentage of lymphocytes may



be lower than normal, but in non-convulsive cases where the total leucocytosis is between 7000 and 10,000, it may range from 35 to 55 per cent. In 12 out of 13 cases I found the lymphocytes actually increased, varying from 2060 to 4470 per cu. mm., and averaging 3240. Taking 1880 as normal, this is a very appreciable increase. Capps (25) gives 2862 as the average in non-convulsive conditions but makes no reference to the fact beyond stating that the large mononuclears are relatively increased especially after convulsions. This I was unable to confirm in my cases.

Further there seems to be a numerical relation between the hæmic lymphocytes and those of the fluid. In 8 out of 12 cases

there was an approximate proportional relation as the accompanying diagram (Fig. 1) shows. This close relationship, which has been shown for the mononuclears, undoubtedly also applies to the polymorphonuclears, especially after seizures. Apparently the cells of the fluid are quantitatively and qualitatively dependent on those of the blood. What the conditions are which so alter the intervening medium as to permit this inter-relation can only be conjectured. The changes in the blood in turn are probably the reaction to the same toxine which causes the lesions in and about the pial and other vessels, as well as the other pathological changes found in the nervous system.

In 70 consecutive punctures in various psychoses the following three cases are of especial interest in suggesting that in certain depressive states accompanied by a hæmic leucocytosis there is also a diapedesis of polymorphonuclears into the spinal fluid.

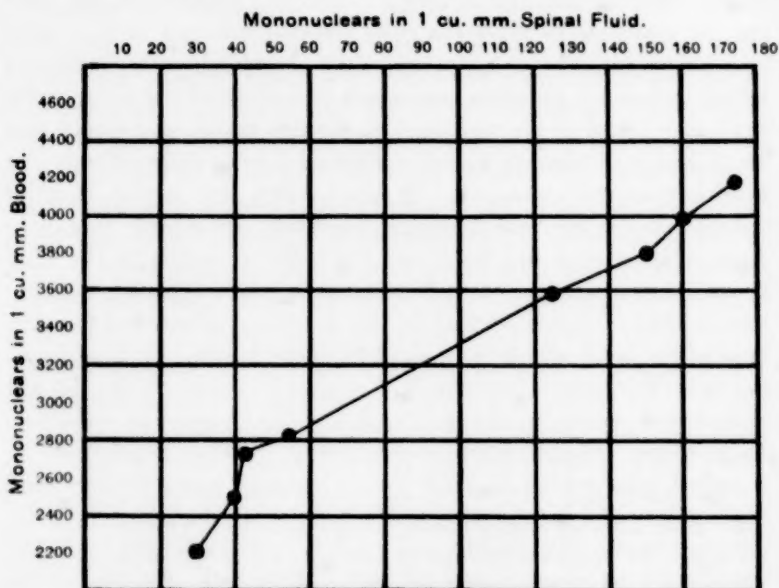
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CASE L.—Male, 55. No previous lues. Acute agitated condition, delirium of negation, nihilism, and auto-accusation. Marked disturbance of consciousness, clouding and disorientation, hallucinations of sight and probably hearing. Motor excitement. No meningitic signs. Pyrexia sustained at 101-3°. Clinical diagnosis in doubt, but probably acute agitated melancholia. Paresis apparently excluded. Hæmic leucocytosis 20,000, of which 92 per cent were polymorphonuclears, 5 per cent small, and 2.5 per cent large lymphocytes. Spinal fluid under apparently normal tension, protein not increased, cells 13 to cu. mm., 81 per cent polymorphonuclears, and 17 per cent lymphocytes. Patient made a rapid and remarkable recovery, and for a year has been well and at work.

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at subsequent operation was found not to involve meninges. Shortly before operation hæmic leucocytosis 15,000. Spinal fluid clear, with slight excess of albumin, and 10 cells to cu. mm., 70 per cent polynuclears and 30 lymphocytes.

These cases are important in that the fluid may be mistaken for that of paresis, even though the number of cells is smaller than the average in the latter, unless a differential is made. While probably not similar pathogenically and entirely too few in number to permit definite conclusions, these cases point to the necessity of further investigation of the cellular content in fluids where there is a high hæmic polynucleosis, and perhaps indicate that there is a certain depressive condition in which the findings of a small but definite spinal polynucleosis is of as definite diagnostic value as the lymphocytosis in paresis.

#### CONCLUSIONS.

1. Every case of paresis exhibits a spinal leucocytosis and increase of albumin.
2. This sign is also from point of view of its constancy, in all probability the earliest.
3. The diagnostic value of a negative puncture is often of greater value than a positive one.
4. The cell counting method with Fuchs and Rosenthal's slide is more accurate and rapid than the centrifuge technique, and has the great advantage in permitting comparative results.
5. The use of Unna's polychrome blue in the *mélangeur* permits a simultaneous differential count.
6. A differential count is important in differentiating the paretic fluid from others, especially where the cytosis is due to a small number of polynuclears.
7. The conditions under which syphilis produce a spinal leucocytosis demand further investigation, especially regarding the number and character of the cells. The increase of cells in the paretic fluid is apparently independent of any long antecedent syphilis.
8. There seems to be a correlation, both qualitative and quantitative, between the spinal and hæmic leucocytoses, which particularly refers to the mononuclears, but includes the polymorphonuclears, especially after convulsions.



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# THE EARLY STAGES OF AN EXPERIMENTAL PIA-ARACHNOIDITIS IN THE RABBIT (WITH ILLUSTRATIONS).

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This piece of work was undertaken with a view of studying the tissue changes in the pia-arachnoid from day to day, occurring as the result of a sterile inflammation caused by chemical irritation in the form of glacial acetic acid. It is hoped that this work may add something to the present knowledge of the condition of the pia-arachnoid, in an acute inflammatory state: it is hardly necessary to add that many very inviting by-paths present themselves and offer valuable fields for study and investigation, but owing to the limited time at my disposal it was imperative that the work should not assume other than the most modest proportions. However, even with this in mind it has been found impossible to entirely dissociate the changes occurring in the pia-arachnoid, under the conditions to be described, from those occurring in the underlying superficial layers of the cortex cerebri.

The technique will be first described in order that a clear understanding of the etiologic factors of the inflammation may be gained.

The animals used in the experiments were young adult rabbits, of a uniform age as far as possible. This uniformity of age, of course, was of the utmost importance, because in young rabbits the changes in the elements of the normal pia are conspicuous from week to week. So if we were to learn anything of the changes occurring, almost like the changing views of a panorama, the careful observance of this rule was absolutely necessary. Despite the fact that the rabbits were of the same age approximately, and that any variation was noted, it was found necessary to take

a piece of normal tissue from each animal and use it as a control in the study of the inflamed area.

Eleven rabbits in all were used, one was a normal rabbit on which no operation was done. The others were all operated upon and represented the various stages in the inflammatory process from one day up to ten. The technique employed in the operations was as follows: The rabbits were prepared for operation in the usual way—the hair on the top of the head being carefully shaved, the vertex being then scrubbed successively with potassium permanganate, oxalic acid and bichloride. An incision was then made in the middle line extending from the frontal to the occipital region. The periosteum being thus exposed was carefully scraped back over the areas which were to be trephined.

The trephine opening was made on each side of the middle line, one somewhat anterior and the other posterior, because it was found that when the openings were directly opposite, there was much more liability of disturbing the button which had just been replaced, than when the opening was not so exposed. The small trephine openings were now made, the buttons being carefully placed to one side. A known quantity of glacial acetic acid was then applied. A small pipette of fine bore was used for this purpose, which was so graduated that the amount of fluid used could be estimated. On one side a small amount of acid was applied (usually 2 cm.), and this was known as the weak irritant which of course caused the mild lesion. On the other side the strong irritant was applied (usually 5 cm.) and the resulting lesion was the severe one. It must of course be kept in mind that the words "weak" and "strong" are here given relative quantitative values, the quality being the same in each instance.

Directly the acid was applied the buttons were replaced and the periosteum scraped back over the openings, and finally the scalp was sewed up. A collodion dressing was applied and the rabbit liberated.

In order that our results might be as accurate as possible, notes on the condition of the animal while on the table and after being liberated were made. Also on their condition in the time intervening between the operation and the time when they were etherized. Nearly all the animals were running about eating

grass in less than twelve hours after operation, apparently as well as ever, any exceptions to this are noted hereafter.

It goes without saying that the operations were all done under strictly aseptic conditions, because the presence of an infection would greatly interfere with the results obtained by causing an increased number of leucocytes to be present in the early stages and causing destruction of areas of tissue rendering them unfit for careful study. Certain other points in connection with the treatment of the tissue after the death of the rabbit until the tissue was ready for study are worth noting. First, it was found most convenient to kill the rabbits by etherizing. This could be done quickly and the tissue could be quickly removed before the post-mortem changes had set in. As soon as the bone was removed and the brain exposed, it was kept moist by normal saline, this prevented the membranes from drying out and kept the tissue in a normal state until it could be fixed. Three per cent nitric acid was first applied to the tissue in situ—as fixative, small blocks were then removed and put through 50 per cent, 60 per cent, 70 per cent, 80 per cent, 90 per cent, 96 per cent alcohol successively, the 96 per cent being changed three times in the first 24 hours. After this the tissue was dealt with in the usual way, celloidin being used for embedding.

The constituents of the pia-arachnoid with which we had to deal were simply mesodermal elements, all being derived from the same source (that is the simple mesoblastic connective-tissue cell) by a process of differentiation. We had also to deal with fixed connective-tissue cells—those going to make up the walls of the blood-vessels, the adventitial cells, muscle cells and endothelial cells—all these were seen in various forms, young, adult, and also certain transition forms. We had finally to consider the different hæmatogenous elements which made their appearance at times.

The normal pia-arachnoid is made up of long connective-tissue cells joined end to end being frequently bulging in the center and pointed toward either end, the nuclei containing many small chromatin granules. Other nuclei are more or less irregularly oval in outline also containing masses of chromatin. A distinct *membrana limitans externa* and *interna* can at times be made out. These membranes are simply chains of flattened endothelial cells



lying end to end. Lying between these rows of cells are the connective-tissue strands. The blood-vessels are everywhere quite numerous in the pia-arachnoid, being separated from one another by varying intervals. Some of the vessels run parallel with the membranes and others run at right angles. They vary considerably in size, from quite small ones to vessels of fairly good size—in many places branches of the vessels can be traced for a short distance into the cortex cerebri. In some instances the limiting membranes of the pia-arachnoid served also as the adventitial layer of the blood-vessel wall. In the normal pia there are no hæmatogenous elements free in the tissue, and it is only after some inflammatory process has been set up that these are found. The connection between the glia fibers and connective-tissue strands in the pia-arachnoid was also seen, long processes of the glia cells running down to the pia. The presence of a small amount of elastic tissue and of collagenous fibers in the pia should be kept in mind.

The rabbit selected for experiment No. 1 was a healthy young adult. The operative procedure before described was carried out, the animal stood the operation well and appeared quite lively after being released from the operating table. Until the time when it was killed 24 hours later, nothing unusual was noted. Immediately after death a section was made and the tissue secured. After being put through in the manner described elsewhere, sections were cut which were stained with Thionin and by the Van Gieson method.

The thionin sections were first studied as they show the changes which one would naturally expect to find at such an early stage of the inflammatory process. It was at once apparent even with the low power that the changes in the pia-arachnoid at this time were largely due to the presence of foreign elements—in other words to the presence of a hæmatogenous exudate. The thickness of the pia was apparently increased, and this was very well seen in sections in which could be compared in the same field of the microscope normal pia and pia that showed changes due to the presence of a pathologic process. With the high power the pia appeared to be swollen and the presence of the exudate was more clearly seen. One could also make out now three zones. The first or central zone showing the injured pia overshadowed

by the hæmatogenous exudate, this being the area where the regressive changes were seen in their most characteristic form. Just outside this and somewhat less in extent transversely was the zone where the pia elements could be seen to have increased in number; where progressive changes were going on, and finally zone number three; that which was most peripherally situated, being almost normal pia.

It is interesting to study the appearances in each of these zones separately. In the central zone, there were scattered everywhere throughout, irregular masses of chromatin, in almost every conceivable shape and form. Some which had undergone the least changes, were irregularly horse-shoe in shape and were at once recognized as nuclei of polymorphonuclear leucocytes, of which the cytoplasm had entirely disappeared. In many other instances the chromatin was arranged much more irregularly, sometimes as rows of small round granules, in other places as curiously shaped figures composed of a number of small granules. These masses of chromatin were scattered everywhere throughout this area, and they were the most conspicuous element present. Owing to their large number they obscured the pia elements and the normal network appearance was quite obliterated. Lying just inside the endothelial layer of the blood-vessels lymphocytes were seen, and the other elements which after the polynuclear chromatin masses, were perhaps the most characteristic of this stage—that is the plasma cells. They were seen in all stages, from the young cells still presenting features of the lymphocytes (from which they are probably derived) namely, the lightly staining cytoplasm with nucleus containing distinct chromatin clumps, to the full-grown cell with eccentric, blue lightly stained nucleus, and the purple cytoplasm containing many granules and in some showing the characteristic appearance of the plasma cell where the protoplasm toward the center being somewhat rarefied and staining less intensely appeared almost like a vacuole. The nuclei of these cells were in many instances quite irregular in outline, and the cells themselves showed no definite cell membrane. The plasma cells so far having showed no proliferative changes, (i. e., mitosis) after reaching adult form they commenced to show regressive changes.

It will thus be seen that where the irritant was most active, at

the height of the curve, so to speak, the changes were chiefly regressive. But passing over to where the action of the chemical was less severely felt, it is apparent that we have to do with a progressive process. The pia elements have been stimulated, they were increased in number, as was evidenced by the increased width of the pia, and this could be seen to be due, not to the presence of the hæmatogenous elements as in the former case, but to a proliferation of the connective-tissue elements of the pia. Where it was possible to trace a small capillary through the pia into the cortex, the vessel wall showed certain changes indicating activity in the mesodermal elements in the immediate neighborhood; in the walls of the vessels just beyond the nuclei little reticulated areas could be made out. In parts of the cortex where the stimulating effect of the irritant had not been felt by the vascular elements only the nuclei could be made out.

The vessels themselves appeared swollen, the lumina appeared wider than normal. In all cases the lumen contained large quantities of red cells and a considerable number of polynuclears. An occasional vein could be distinctly made out in the pia-arachnoid, and here also the lumen could be more easily made out than in the normal pia where no inflammatory change was present. The endothelial cells in the wall with their nuclei could be differentiated.

In many instances the condition of the vessel wall suggested the beginning of an active proliferative process—this was most conspicuous just outside the acute zone where the changes were all more or less regressive. The presence also of fibroblasts suggested an active proliferating process in the pia, and for this reason beginning mitotic changes were carefully looked for, and although there were ceratin appearances which strongly suggested mitosis, no definite picture of cell division was seen at this period.

With the Van Gieson stain an increase in the amount of collagenous material could be made out. This being practically the only observation that could be made from an examination of the Van Gieson pictures; other than those noted in sections stained by thionin.

So it was clear that the picture that presents itself at the end of the first 24 hours in an acute inflammatory condition artificially induced under aseptic conditions is chiefly of a hæmatogenous na-

ture. The changes being both accumulative and regressive, the latter being most in evidence as was seen by the great masses of polynuclear leucocytes undergoing degenerative changes. At the same time the stimulation of the tissues just outside the actually wounded area had clearly brought about the reparative process, this being evidenced by the activity in the elements of the vessel walls.

In the case of the rabbit used in this experiment, owing to the amount of irritant used having been small, no marked changes in the cortex cerebri were anticipated and this proved to be the case. There was slight damage to some of the ganglion cells due to the direct action of the irritant and the mesodermal elements which run into the cortex from the pia-arachnoid, showed the changes here as elsewhere. But, the mesodermal elements are really foreign to the cortex cerebri, not being related to the specific constituents of the gray matter in origin, development or function, simply supplying the layers of the cortex with its blood supply and having other functions entirely dissimilar to those of the native tissue.

Next were studied the changes at the end of the second 24 hours—that is, the conditions found at the end of 48 hours. It was noted at the time of operation that the rabbit used for the experiment was not quite fully grown. It stood the operation well and no untoward incident was noted up to the time of death.

With the low power the area of the lesion could be seen and definitely limited and the normal pia-arachnoid on either side followed. With this magnification it was evident also that the exudative condition with which we had to deal in the 24-hour sections had largely subsided, and because the pia was definitely increased in amount at the site of the lesion, the only solution was that active progressive changes had superseded the regressive ones which were so conspicuous before at the site of the lesion. With the  $1/12$  power the first striking fact was the disappearance in large part of the chromatin masses that were present in such large quantities 24 hours previously. The masses were comparatively rare and scattered at irregular intervals. The fact that these masses of chromatin had largely disappeared; and the other hæmatogenous element, which largely dominated the 24-hour picture, namely, the plasma cell, was not seen in its typical form;

naturally suggested the probability that certain elements had arrived whose function was phagocytic. This proved to be the case and we saw for the first time cells which in common with certain other workers I shall hereafter speak of as "reticulated cells." Before going further, it would perhaps be well to digress to the extent of clearly explaining the nature of the cell of which I wish to speak at some length.

They have been called "fatty granular cells" and "Epithelioid" cells, also "Gitterzellen," lattice cells, so described by Juliusburger and Boedecker and this name Nissl also applies to them. They are found chiefly in lesions of the brain where there has been actual destruction of tissue and it has been recognized for some time that their function is largely phagocytic, and this point Nissl has emphasized. This fact was clearly recognizable in our sections, as several of the cells contained foreign bodies. Their appearance in the adult form is as follows: They vary considerably in size, they are as a rule irregular in outline; they have no definite cell membrane, they are made up of numerous vacuoles joining together, the cytoplasm being confined to the thin thread-like trabeculae which bind the vacuoles. The cell itself stains lightly. The nucleus is, in the characteristic cell, peripherally situated. It stains quite deeply and is in marked contrast to the cell body. There is no definite nucleolus, but the nucleus contains irregular masses of chromatin which stain very deeply as a rule, also there are other small granules of chromatin scattered throughout the nucleus.

In the sections which we are at present dealing with these cells were confined to the arachnoid spaces. None were seen in the cortex. The vacuolations could be made out more clearly in some than in others. In certain cells there were only two or three conspicuous vacuoles, the others being much less marked. The vacuoles which were as a rule most noticeable contained foreign bodies (some resembled chromatin masses, others appeared like red-blood cells), and this appearance is characteristic. The cells were not very numerous at this stage. They showed no evidence of mitosis and their appearance was probably synchronous with the next element which we have to describe, namely, the fibroblast in an active proliferating state.

This element is a product of the simple embryonic mesodermal



cells from which the more highly differentiated adventitial and endothelial cells are developed. Their appearance in the lesion at this stage was characteristic, the slightly elongated, irregularly oval nucleus; staining rather lightly as did also the cell protoplasm, the mesh-like appearance just outside the nucleus where a number of small very irregular meshes could be made out. This condition is always found in the active fibroblast. The nucleus contains scattered irregular clumps of chromatin.

All through the section fibroblast nuclei were much in evidence and a great many tended to assume a spherical form. The most striking feature about the fibroblasts was their activity. Everywhere the process of mitosis could be seen. Cells were seen in all stages of division, and in many instances, one could see in the same field chromatin clumps assuming a polar arrangement and the adjacent cell just divided. Many of these cells undergoing mitosis were seen in almost every field, particularly over the site of the lesion, and they were one of the most characteristic appearances in the 48-hour picture.

The newly formed fibroblasts tended to run in parallel lines (fibroblast trains) and to form the wall of new blood-vessels.

Mitosis was also seen occurring in the endothelial cells in the walls of the veins, and was characterized by the bulging out of the wall of the nucleus and the usual arrangement of the chromatin. Similar mitoses were seen in the walls of the capillaries in the cortex.

These were the features in the pia at the end of 48 hours which were the most conspicuous, and it is evident that the changes going on at this time were largely progressive in character. Wherever in the tissue there had been very evident destruction, the connective tissue as we have seen, was undergoing active proliferative changes which had been stimulated by the inflammatory process.

Certain changes in the layers of the cortex directly under the lesion will be noticed just for a moment. Many of the ganglion cells were seen to have been severely injured by the irritant action of the acid. They showed very considerable nuclear changes with breaking down in the cell body. In one instance where the cell protoplasm stained only faintly and where the cell outline was not at all clear, in the nucleus the nucleolus was deeply

stained and was peripherally situated. This condition of degeneration in the ganglion cell was not seen elsewhere than in the zone of the lesion. Certain accompanying glia changes were also observed. Many of the glia nuclei were larger than normal, the chromatin granules were larger and stained more deeply, and the protoplasmic processes of the glia cell bodies could be more easily followed. Clusters of glia nuclei were also seen, three or four glia nuclei were seen in one cell overlapping one another, but the outline of each one could be distinctly seen. The cell itself appeared irregular in outline, the protoplasm had partially disappeared, but scattered throughout small peripheral basophilic particles could be seen. As the work is to deal chiefly with changes in the pia, further observations on the existing conditions in the cortex cerebri are not recorded.

Before proceeding to a consideration of the changes observed at the end of 72 hours, I would say that many forms of the reticulated cells were observed which were chiefly characterized by the presence of one large vacuole clearly to be seen, and a number of others much more difficult to distinguish as such. The sections studied to show the changes present at the end of 48 hours were Thionin preparations. A study of the Van Gieson sections showed very well the increased amount of the connective tissue present, and this could be well demonstrated with the low power where one was able to bring into one field, the area which had been treated with the irritant and areas of normal pia on either side. When this was done, the increased thickness of the pia over the site of the lesion was seen to be due to the proliferation of connective tissue—the various forms of adventitial and endothelial nuclei were also well seen here; and their appearance was compared with that of the fibroblast nuclei; these latter being nearly always spherical, the type of the embryonic mesodermal tissue cell nucleus; the adventitial and endothelial, were nearly always seen to be flattened, elongated structures. In many instances it was difficult to make out their cell protoplasm. The mitotic activity of the endothelial and adventitial nuclei was much less marked than in the case of the fibroblasts; and this of course was to be expected, as the fixed tissue elements take a less active part in the proliferative processes than do the fibroblasts and are less in evidence where the process of repair is going on. Of

course as the fibroblasts develop, many of them, as was noted before, serve in the formation of the walls of the new vascular channels.

The animal used in the third experiment was a young full-grown rabbit. It was etherized 72 hours after the operation. Nothing of interest occurred between the time when the animal was operated upon until it was killed. A study of the sections at this stage showed many interesting developments. It was at once apparent even with the No. 6 power that we had largely to do with fibroblastic activity, and it could also be demonstrated that the changes were to be found chiefly in the molecular zone in the cortex. The sections did not present the picture of a greatly thickened pia as sections made earlier had done. Instead, the striking feature was the connective-tissue invasion of the molecular zone. Everywhere strands of connective tissue either in the form of new vascular channels or as fibroblast trains could be seen.

With the 1/12 power were noted the increase in the connective-tissue elements, the invasion of the molecular zone and the marked absence of the hæmatogenous elements which was so conspicuous at the end of 24 hours and could still be seen at the end of the second day. It will perhaps be better to discuss the changes in the various elements in a categorical fashion—and we will begin with the connective-tissue elements, present in most striking numbers as fibroblasts.

These cells presented the same appearance that was noted in the previous sections—the rather elongated nucleus rounded at either end containing a rich chromatin strand which stained deeply, the rest of the protoplasm in the nucleus staining much less intensely, and the cytoplasm often being still more difficult to distinguish because of the small amount of stain which it had taken up. They were in an extremely active condition; all stages of mitosis being seen. They varied considerably in size according to their age. Some of the cells which had made their appearance some time before being of quite large size. The newly formed fibroblasts in many instances soon joined to form new blood-vessels, and when they assumed the condition of a fixed tissue cell their appearance changed somewhat, this being due, of course, to a decrease in their functional activity—then they were

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much less likely to undergo mitosis—the chromatin of the nucleus was decreased in amount and the staining of the cell body and the nucleus was more uniform.

The activity of the fibroblasts was not solely confined to those found in the molecular zone. Occasionally a mitosis would be seen in a fibroblast deep down in the layers of the cortex. Everywhere the appearance was characteristic of activity of the mesodermal elements.

The hæmatogenous exudate had practically disappeared. No plasma cells were seen. Some chromatin masses, the remains of broken down polynuclears were occasionally seen, but they were quite few in number. The regressive changes in the leucocytes had gone on to such an extent that it was often extremely difficult to recognize various forms which were seen. These were scattered about in the cortex and could only be differentiated from certain regressive forms of glia nuclei by a careful search for other forms in earlier or later stages whose character we knew.

The increase in the number of reticulated cells was quite striking—with the fibroblasts they were as a rule the chief constituents of any field. The adult forms were first studied and quite a number was seen, whose nuclei were extremely irregular in outline, where the vacuoles were small and where there was an appearance of cell membrane, but this, of course, was not present. However, by far the greatest number of those seen were perfectly characteristic forms, large and containing on the average from about 15 to 17 vacuoles, the nucleus was eccentric, and there was no suggestion of a cell membrane while the cells were, as a rule, quite regular in outline, as was also the nucleus. Some of the irregular forms of the reticulated cells contained dumb-bell shaped nuclei which strongly suggested a beginning mitosis, but this was never actually seen. Some of the reticulated cells had a tail-piece of protoplasm—the tag end of the cytoplasm which had not yet been taken up into the cell body. These were not altogether unlike the pseudopodia which the reticulated cell does throw out when surrounding a foreign body; but at the same time it was quite evident that the little tags were not pseudopodia, but in all probability the tag of protoplasm showing where division had taken place. The fact that the reticulated cells were found every-

where in the cortex, emphasized the fact that they are the wandering cells most usually seen there.

It happened that in the sections which were studied at this time the function of the reticulated cells, namely, phagocytosis was not seen as well as in certain fields in the 48-hour sections, and the possible explanation of this is that the cells at this particular period were more actively engaged in division than at other periods. And it could be seen that they were more actively engaged in mitosis than at any other stage. Everywhere the characteristic change in the cytoplasm and nucleus preparatory to division were seen and the various stages could be studied. The cytoplasm showed a deeper staining reaction, the vacuoles were much less conspicuous, in fact in some cells they had quite disappeared—the cell body became more compact, the chromatin masses in the nucleus assumed the form of a rosary—a single row of small clumps arranged in a circular fashion about the nuclear membrane. Later the two polar bodies could be seen, the filaments running from one to the other could also be made out and along their course little basophilic granules were seen. These granules were chiefly confined to the rows of filaments, but a few had strayed out to the edge of the nucleus just outside the nuclear membrane.

A curious feature was noted in connection with the reticulated cells, and it was that many cells in the process of mitosis were lying close to capillaries, and it is possible that reticulated cells so situated show more active proliferation. Of course, many of these cells were also seen dividing at a considerable distance from any vascular channel.

As one would expect, since the site of the changes seen at this period was the molecular zone, the changes in the cortex were more conspicuous than at any other period so far investigated. The most striking feature was the regressive changes seen in the glia nuclei. Their forms were extremely varied. Some were seen as almost circular, small darkly staining bodies in which no distinct granules could be seen, and in many of these no cell body could be made out; in some the cell body was suggested by a halo surrounding the nucleus. Other nuclei stained very faintly and contained small chromatin clumps, about these also no distinct cytoplasm could be differentiated. The size of the regressive

nuclei was of course very variable, some were about normal in size and were filled right up with small chromatin granules. Besides the atypical form seen, there were of course many glia nuclei undergoing progressive changes, these were larger than usual and showed all the signs which have been mentioned before of glia proliferation.

The sections which have just been studied were all stained with thionin and the Van Gieson picture did not add anything new. In explanation of the fact that the changes noted had largely taken place in the cortex, it should be mentioned that the lesion was quite a mild one, although owing to an accident to the capillary pipette while the instruments were being prepared for operation the amount of irritant could not be as accurately determined as in the other cases.

We have seen then that the changes which were noted at the end of three days were really: An increase in the proliferative activity seen at the end of 48 hours with more marked regressive changes in the glia nuclei, and finally the last phase in the life history of many of the hæmatogenous elements which made up the exudate. Certain other elements were seen at this time, which will be briefly touched upon. They were long narrow cells, irregular in outline, closely resembling adventitial nuclei, and it is probable that they are elements closely related to them. At times they were only of moderate length and were more or less crescentic.

The absence of any plasma cells has been spoken of elsewhere, and it is only fair to state that possibly in other sections which were not studied closely these elements might have been found. It has been the habit of the writer to take one section and make nearly all observations from a study of this; because once oriented regarding the points to be learned by a study of the particular slide, the task was much easier and the study more thorough and searching, because various forms could by comparison often be traced through different phases.

At the beginning of the study of the tissue which was secured four days after the irritant was applied; it is well to state that owing to an accident while the operation was in progress the amount of the irritant applied was slightly greater than in any previous case in consequence of which the lesion produced may

appear very acute when one considers the length of time that had elapsed, viz., 96 hours. The rabbit used was a normal adult.

The exudate which we have seen by a study of the third day section had largely disappeared, was still less noticeable, only an occasional irregular chromatin clump was found, indicating the regressive process going on in a leucocyte. A few plasma cells were seen, although they were not present or at least were not observed at the end of three days. They were present in the cortex and in the area which had been injured by the direct contact of the acid.

The most striking features in the picture at this time, however, were: the continued activity in the fibroblasts, and secondly, the active proliferation of the reticulated cells. The activity in the fibroblasts was possibly even more conspicuous than at the end of 36 hours; mitosis was seen to be going on in many places and a further process was noticed—that the newly formed fibroblasts were actively engaged in forming new blood-vessels—and in some of these vessels red-blood cells were seen. Before this time the new vessels were all formed from preexisting vessels branching off as capillaries, etc., so that the process which presented itself at this stage was decidedly an advance. Fibroblast trains were also seen and were more numerous than at the end of the third day.

The fibroblast activity of course caused a great increase in the number of connective-tissue elements and resulted in a very considerable increase in the width of the pia.

The second feature in the connective-tissue proliferative activity was the great increase in the number of the reticulated cells. They were everywhere present, but most in evidence in the damaged cortex. They presented very many different forms, some small, some very large, some regular, others quite irregular in outline, some spherical in shape.

Many features in connection with the life history of these most interesting cells were observed. The rapidity with which they appear, attain adult form, divide and undergo regressive changes was indeed striking. Some cells were seen where the tag of protoplasm indicating a very recent cell division could still be seen, and in these cells mitosis had begun. A somewhat earlier stage was also noted, where the two cells had not separated,

where two distinct nuclei were present, but the cytoplasm had not yet divided.

The third phase exemplified by the regressive forms was also quite conspicuous; they varied from cells where there was only a slight diminution in the number of vacuoles—to cells where only little tags remained attached to the nuclei—the vacuoles having entirely disappeared. Following this further, various reticulated cell nuclei were seen where no cytoplasm could be made out at all, and in some instances these nuclei were seen in the vacuoles of other more recently formed reticulated cells. Here they had actually been prey for their younger brother phagocytes. A considerable number of reticulated cells were observed to have two nuclei and an occasional one with three. These of course were cell nuclei and not degenerated cell nuclei that had been taken up because these later could be differentiated by being always in vacuoles.

That these cells, the Gitterzellen or reticulated cells are the most important phagocytic elements in the cortex, was over and over demonstrated. It has already been noted that they contain regressive reticulated cell nuclei; they were also seen to have taken up glia nuclei and regressive forms of ganglion cell nuclei. No other cells were observed to have a phagocytic function in any section studied.

Certain regressive changes in the reticulated cells, which have already been mentioned, made it hard (in some instances) to be sure whether we had to deal with regressive glia forms or reticulated cells. But on a closer study it was found to be almost invariably true that the glia nucleus was surrounded by a small amount of cytoplasm, and often the thread-like processes could be traced for a short distance, but in the case of the reticulated cell nucleus where the tags of protoplasm suggested the possibility of its being a glia nucleus, the cytoplasm was absent and the spider-like processes were not seen. The connection between the various glia cells of course also aided in the differentiation. Several instances of mitosis in glia nuclei were seen and here the rosary-like appearance of the chromatin granules just inside the nuclear membrane was observed. Hypertrophic glia cells were seen, very large forms containing an increased amount of chromatin. Owing to the severity of the lesion various regressive



forms were seen in both glia and ganglion cells. To summarize briefly, the changes at the end of 96 hours were seen to be largely proliferative as regards the connective-tissue elements. Keeping in mind, of course, the fact that the reticulated cells, owing to the brief span of their activity, also showed many regressive changes. The changes in the glia were proliferative and regressive and in the ganglion cells the changes were all regressive.

This brings us to a consideration of the changes occurring at the end of five days. The rabbit used in the experiment was only half-grown. It stood the operation rather badly; but after being liberated when the operation had been completed, it hopped about and showed nothing abnormal up to the time when it was etherized. These factors, particularly the difference in age, must be kept in mind because the results obtained were quite different to those obtained at earlier stages, and it seems probable that such a factor may have had some importance in determining the variation.

In looking over sections where only a small amount of irritant had been applied, it was at once evident that the changes were largely confined to the pia, the changes in the underlying molecular zone being so slight that they really did not enter into reckoning at all. The other changes with which we had to deal were found to be more easily studied in sections where the more severe lesion had been induced; so that the observations were chiefly confined to these.

The most striking feature of the five-day picture and the one which was constant in all sections was the great increase in the number of plasma cells. They were found in large numbers in every field studied. That they were present at the end of four days has already been noted, but their number at that time was quite insignificant when compared with their frequency in the five-day sections. That they are present in various inflammatory exudates, of course is well known, but the variability in their appearance both as to the time of their occurrence, and as to their frequency strongly impressed itself upon my mind, and, it is really the point of importance elicited by the study of the sections at this time. As to their form they varied from the most characteristic types to those where quite marked regressive changes were under way. In the case of the typical plasma cells,

the rather large cell body, fairly regular in outline, with slightly staining cytoplasm, the eccentric more darkly staining nucleus containing a number of chromatin masses arranged about the periphery, as a rule all staining darkly, with the exception of one small clump, more centrally located, whose staining reaction was the same as that of the cell protoplasm—that is light. The darkly staining basophilic clumps did not at all suggest the rosary-like arrangement spoken of elsewhere as the characteristic of premitotic states in the reticulated and glia cell nuclei.

The less characteristic plasma cells show differences in the staining reaction. Occasionally the nucleus would stain very darkly throughout, and its structure could not well be made out. This condition suggested the probable early onset of still more marked regressive changes, and this was found to be true in certain instances. Occasional bi-nuclear forms were also present as one would expect, with the very considerable increase in the number of plasma cells, there was also an increase in the number of other hæmatogenous elements, and a marked hæmatogenous exudate was seen in certain fields, but its character varied somewhat from that seen at the end of 24 and 48 hours. And the most characteristic difference was in the absence of the regressive forms of leucocytes, chiefly the polynuclears; an occasional polynuclear was seen both in the pia, and of course in the blood-vessels, but they were not undergoing degenerative changes. A fairly large number of mononuclear was seen, some very large forms almost like myelocytes; of course a few leucocytes were seen to be breaking down, but their number was quite inconsiderable.

The connective-tissue proliferation continued, many fibroblasts were seen undergoing mitosis, and some beautiful karyokinetic figures were observed. Some of the best of these were in the endothelial cells. Here all the various phases could be seen from the early pre-mitotic condition of the nucleus to the establishment of the two nuclei and the beginning division of the cytoplasm. In some of the endothelial cells the spherical shape of the nucleus was well seen and this was characteristic of those elements when found in a connective-tissue hyperplasia.

In the sections studied, even where the lesion was most severe, very little change could be made out in the cortex. The very

evident regressive conditions present in sections of previous days were absent here. Unfortunately also, nearly all the sections showed a very light staining of the molecular zone so that the exact condition there could only be ascertained with difficulty. But one feature which was rather puzzling was the absence of the reticulated cells, or rather one should say they were not observed, because it is quite possible that owing to the very mild staining reaction of the upper zone of the cortex they may have been present, but not detected owing to the mild nature of the irritation, the cortex being (as has been noted) almost intact; it is extremely probable that they would at least be greatly reduced in numbers. It is also true that they were not seen anywhere in the pia-arachnoid in the sections studied. This observation would merely add to what already has been said regarding their function, because in these sections the changes were almost entirely limited to the pia-arachnoid, and on that account one would not expect to find many phagocytic elements present. As in the case of the sections studied before, almost all the observations made were on sections stained with thionin. From a brief study of the Van Gieson sections the chief thing noted was an increase in the amount of the collagenous material present.

The study of the sections made at the expiration of six days was rather unsatisfactory for the reason that the rabbit used for the experiment stood the operation quite badly, struggled considerably, and bled quite profusely from the nose during the progress of the operation. After being liberated it hopped about and seemed to be in a fairly good condition. On the morning following, however, it was quite dull and stupid, could hardly be urged to change its position and was not eating well. This condition lasted for two or three days when the animal became somewhat more lively, and by the sixth day to all outward appearances was not very abnormal.

The sections at once showed, however, that one had other conditions to deal with than the lesion produced by the application of the irritant. A very severe cerebral hæmorrhage had taken place, involving all the layers of the cortex and extending even below it into the white matter. Red-blood cells were seen in large numbers lying free in the cortex, and the cortex itself in some places had quite lost its structure. Everywhere there were

great numbers of reticulated cells, in some of the fields they were so dense that they were overlying one another. This reaction in the injured cortex was very characteristic and served to illustrate one of the processes which follows a cortical hæmorrhage under any condition; the appearance of a vast number of the reticulated cells, whose object is to remove the tissue that has been devastated and is undergoing regressive changes.

The pia showed an overwhelming number of fibroblasts; they were present in such great numbers that it was extremely difficult to study their structure or arrangement or rather lack of arrangement. They were really piled up in banks. In places where they were not so numerous and where their characteristics were not obscured by their quantity; it could be seen that mitosis was still going on. Plasma cells were seen occasionally in such areas.

Owing to the conditions which have just been mentioned, it was found quite impossible to make any accurate or careful observations, for this reason we passed directly to a consideration of the state of the pia-arachnoid seven days after the irritant had been applied. The rabbit used in this instance was a full-grown healthy animal. It stood the operation well, but it was noted at the time that it bled quite profusely throughout the operation. No other untoward incident is recorded, however, in the time that elapsed before it was etherized.

Unlike the sections at other times and clearly indicating an advance in the process, the sections at the end of seven days showed an arrangement of the newly formed connective-tissue elements, characteristic of fairly late progressive changes. The fibroblasts had become oriented in parallel rows, the formation being very dense, of course causing a very considerable increase in the thickness of the pia. The mitoses were seen much less frequently, and this was doubtless owing to the large number of fibroblasts already present, and also probably to the slight amount of injury sustained by the cortex in the lesion at this time.

The arrangement of the cells in rows is a more mature phase in the changes following an inflammatory process than the conditions observed at any time previous, and would suggest that the progressive reaction resulting in the overgrowth of connective-tissue elements has almost attained its acme. Of course the individual reaction of each rabbit and the probable slight variation

in the amount of irritant applied have to be considered. For this and other reasons one cannot be too dogmatic, as we have seen by the study of the changes at various other periods, and one of the striking characteristics in the elements present has been the variability in number of the element at different times.

Plasma cells were found in much less abundance than at the end of the five days, and relatively less abundant than at the end of the sixth day. The reticulated cells were few in number, and this probably also followed because of the slight injury which had been done to the cortex. Certain very interesting forms were observed in studying the fibroblasts which had not been encountered before. They were regressive in character and assumed many bizarre shapes. Some were stellate, others arrow-shaped, and many long narrow cells almost identical in some cases with adult adventitial nuclei. Some of these cells showed by their staining reaction that not only were their physical properties altered as was shown by their forms, but also that they had undergone a chemical change. Cells which under normal conditions showed a mauve reaction to thionin, were green. These cells were occasionally seen cut off from the other fibroblasts and apparently were not functionally active at times. They would be seen to be hemmed off by the dense formation of fibroblasts already mentioned, and occupying an otherwise comparatively clear area. I shall not advance any explanation as to why these forms should have been in the picture at this time.

The dura mater was seen in some of the sections studied at this time, and since no mention has been made of it before we may digress just long enough to mention its connection with these experiments.

When the opening was made in the vertex in the cases operated upon, the irritant was applied directly to the dura and reacted upon the pia-arachnoid through the dura. However, when the animal came to autopsy and the skull was removed piece by piece, the dura was also taken off, and since this work dealt only with the pia-arachnoid, no attempt was made to preserve the dura. Because of this, no section studied until the one present showed any trace of the dura. However, at this time it was seen. In its structure it is a connective-tissue membrane, made up of many strands running together. It is less vascular than the pia and of



course does not show the loose spongy arrangement seen in the pia-arachnoid.

The change at the end of the next 24 hours, that is, in the rabbit killed eight days after operation, can well be described under three headings: those in the epiblastic tissue, those in the mesoblastic, and the difference in the hæmatogenous elements seen. The rabbit was a normal adult and nothing was noted that would modify the observations made. The connective-tissue hyperplasia was seen especially well in the sections where only a mild lesion had been caused. Here the fibroblast overgrowth was seen to be continuing, many new small vessels of the pia-arachnoid were seen. The mitoses in the fibroblasts were not quite so numerous as seen in the sections at the end of the seventh day where the lesion was relatively of the same intensity. The differentiation of the newly formed fibroblasts was more noticeable than at any other period. Some had assumed the position of adventitial cells, while others formed the lining of the new vascular channels. Some of the regressive fibroblast forms noted in the study of the sections of the previous day, were seen in the large vessels. The glia proliferation in these sections was quite striking; many nuclei were seen in the pre-mitotic stages, glia clusters were also quite numerous. The ganglion cells did not show many changes and this of course was due to the nature of the lesion. As a consequence of the mildness of the lesion and the few regressive changes seen, the reticulated cells were less numerous, but in some of those observed mitosis was seen well under way.

The blood elements were quite numerous, the plasma cells being present in greatest abundance. They were rather more frequently seen than at the end of the seventh day. The nuclei of some of the plasma cells were seen to be in an active condition suggesting an oncoming mitosis, and later some cells were seen in the process of division; in one cell observed the two newly formed nuclei were very characteristic. An occasional chromatin clump was seen, some having the form of the nuclei in the polynuclear leucocytes. A number of lymphocytes was also seen. In the case of the severe lesion a considerable area of the cortex had undergone a degenerative process and a low power picture of the tissue was extremely characteristic. One could make out the connective tissue bounding the area where regressive changes

were in progress, marking it off clearly from the surrounding cortex. With the higher power the great number and the marked activity of the reticulated cells was seen. They were everywhere present and many contained foreign matter—granules of various sizes—and the regressive forms of the ganglion cells. The action of the reticulated cells in removing the granular débris, all that remained of the cortex, was plainly evident.

Just below the injured zone proliferating glia nuclei were seen in very considerable numbers. The fibroblast invasion of the injured zone was also well under way, and here and there definite fibroblast trains were seen.

The rabbit used in the next experiment was a healthy adult animal. Nothing of special note occurred during the time that elapsed between the operation and the death of the rabbit. Two lesions were caused as in previous operations. The study of the sections of the severe lesion revealed very little that has not been noted in the corresponding lesion at the end of the eighth day. In the less severe lesion, however, it was seen that the ninth day picture in certain fields showed a slight advance in the process. The mitosis was less conspicuous both in fibroblasts and reticulated cells, but the proliferative activity of the reticulated cells is, as we have seen elsewhere, almost entirely dependent upon the degree of severity of the lesion in the cortex. That is, the reproduction of the cells is determined by the necessity of their presence for the performance of their phagocytic function.

The fibroblast picture in certain areas was extremely interesting. In such fields they made up a network of very delicate structure, and in the interstices of this network reticulated cells were everywhere seen. Plasma cells were seen to be present in quite large numbers, they were probably more numerous in sections of the severe lesion. In general outline the pia-arachnoid appeared even thicker than at the end of eight days, and this thickening was mainly due, to the greatly increased number of fibroblasts, which undoubtedly was the result of extreme proliferative activity at an earlier stage in the development of the picture.

The sections made at the end of 10 days were from a normal healthy adult rabbit, in this animal only one lesion was caused—a mild one. Here, again, although the changes indicated a slightly later stage, nothing very markedly suggestive was noted.

Regarding the reticulated cells which were still present, the only unusual feature observed was the degeneration of quite a considerable number. Except for this feature nothing else was seen that has not already been spoken of. The fibroblasts still showed some activity and the increase in their number was much less marked than in sections of earlier days and this suggested the possibility that the height of the process had been almost reached. In some of the fibroblast nuclei, that is, in those cells which still were seen to be in an active state, the chromatin had assumed a girder arrangement, one band passing across the center of the nucleus. The hæmatogenous exudate was observed to be present, plasma cells being seen here and there, also a smaller number of mononuclear leucocytes, and in one the presence of two nuclei was observed.

Owing to the short time available it was found impossible to continue these experiments at present, and this was much regretted because the process was really in an acute stage; however, the observation of further stages up to the conclusion of the process will be continued at a later period. The work is presented merely as a preliminary report of the acute phase of a process which later would doubtless show many interesting regressive changes. It is the aim of the writer at some future date to present the findings in the later stages of the process.

To sum up, I would present the following conclusions:

I. That in an acute, aseptic inflammatory process which has proceeded as far as the 10th day, the most striking feature is the variability in the time of the appearance, and in the number of the various elements present at different times.

II. Further, that the study of a single individual element is not sufficient to indicate how far the process had gone. To this end a general survey of all the elements is necessary.

III. That the variability in the character of the elements in different phases of the process is very slight. Elements observed in a certain condition at the end of the third day may be seen in identically the same form at the end of eight days.

IV. That plasma cells are at all times conspicuous, in the early stages being present in very large numbers; then somewhat less numerous, and again, later in the process being relatively in-

creased in numbers. But throughout the whole process their presence is a characteristic feature.

V. And lastly, the fact that at no stage of the process were any Mastzellen observed. This was quite noteworthy, when certain features in the process, namely, the presence of various other hæmatogenous elements, is kept in mind.

The photomicrographs accompanying are intended to represent various phases of the process, as explained by the legends printed with the same.

#### DESCRIPTION OF PLATES.

FIG. 1.—Shows section of normal cortex cerebri of rabbit with pia-arachnoid. The membrana limitans interna and externa are shown and an occasional vessel cut in section may also be seen. It will be observed that there is a very slight amount of connective tissue running from the pia-arachnoid into the cortex in the normal condition, and there are no vascular elements free in the tissue.

FIG. 2.—Illustration of sections made at the end of 24 hours. The very strong reaction to the glacial acetic acid is here shown. The great number of vascular elements free in the tissue and the greatly increased number of blood cells in the vessels shown in section is also evident. The thickness of the pia-arachnoid is greatly increased and this increase is due not to connective-tissue proliferation but to vascular engorgement.

FIG. 3.—(Taken at the end of 72 hours.) This photograph shows a further stage in the inflammatory (reactive) process. Connective-tissue proliferation is here well seen—the pia-arachnoid is greatly thickened and is seen to be due to a great increase in number of fibroblastic elements. It will also be seen that the connective tissue actively extends down into the cortex, particularly in the molecular zone. Vascular elements are seen to be still free in the tissue but they are much less numerous than in the preceding photograph.

FIG. 4.—This illustration shows the process at the end of five days. The connective-tissue proliferation is very much more marked, and the pia-arachnoid is greatly increased in thickness in consequence. The activity of the mesoblastic tissue in the deeper layers of the cortex is also seen. Vascular elements are here very little in evidence.





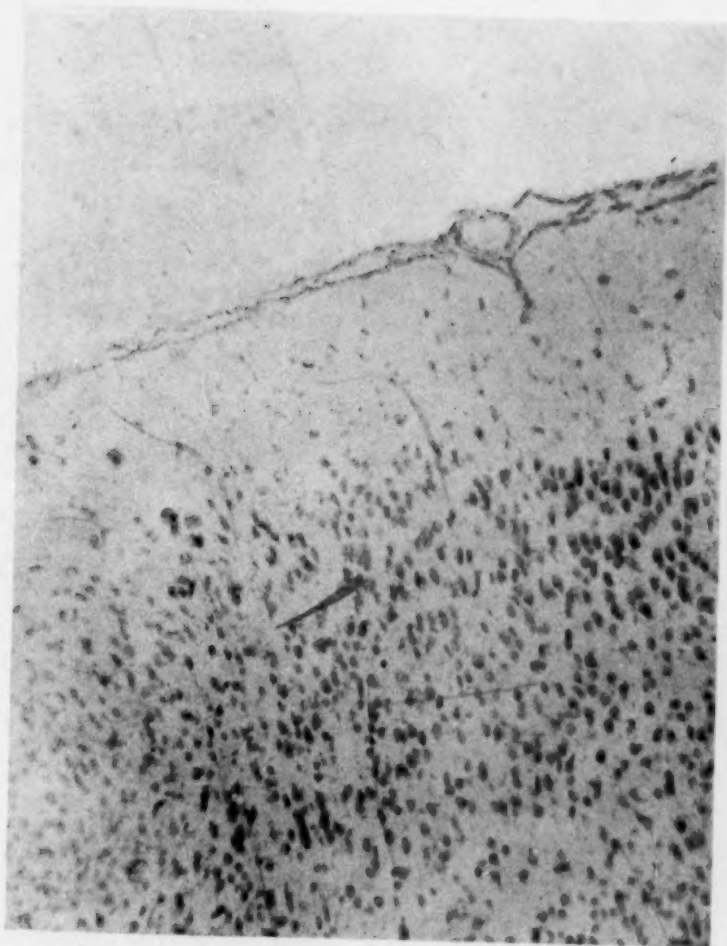


FIG. 1.

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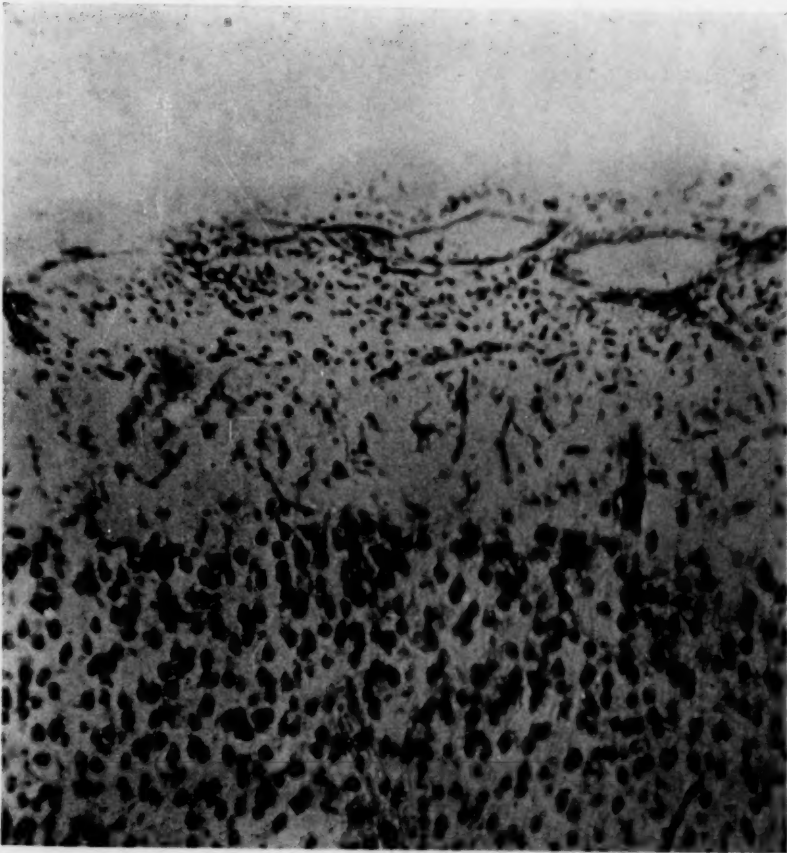


FIG. 2.

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FIG. 3.

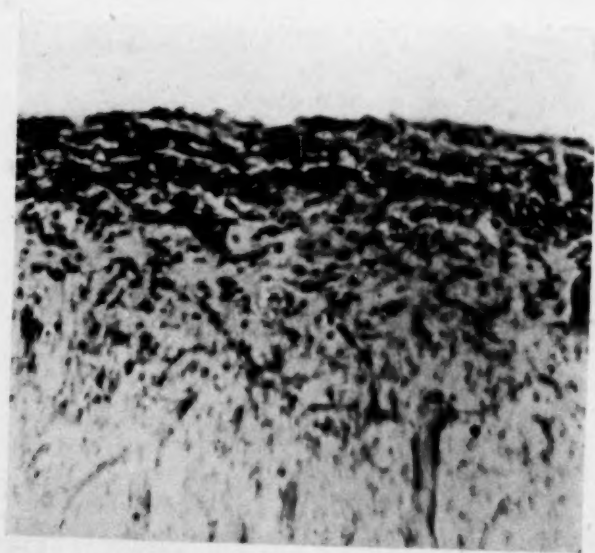


FIG. 4.



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## REPORT OF COMMITTEE ON TRAINING SCHOOLS FOR NURSES.

*To the President and Members of the American Medico-Psychological Association the following report is respectfully submitted:*

At the meeting of the Association in June, 1906, your Committee was appointed "to prescribe a minimum course of instruction for training schools for nurses in hospitals for the insane." The matter has been carefully considered and an attempt is here made to suggest such a course. Should it seem to some to include too much, your Committee begs to suggest that with the advance of recent years in the care and treatment of the sick the minimum of what a nurse should know cannot be small.

### ORGANIZATION OF THE SCHOOL.

Something should be said upon the proper organization of a school, since upon this its success in so large a measure depends. The teaching staff should be large enough so that the burden on any one person may not be too great, and so that the work of the school would not be embarrassed by the temporary disability or the withdrawal of one or more of the instructors. The superintendent of nurses,<sup>1</sup> who is also superintendent of the school, should have begun her nursing career in a hospital for the insane and afterward have graduated from a general hospital school. Under the direction and with the advice of the Superintendent of the hospital she should co-ordinate all the work of the school and arrange for rotation of service of the nurses, which is so important for variety of experience. In a hospital of any size she would have an assistant, whose qualifications should be similar to her own, and both should rank and be treated as officers of the hospital.

Lectures on medical subjects are, of course, to be given regu-

<sup>1</sup> The Superintendent of the hospital will probably avoid trouble by educating one of his own nurses for this position.

larly by different members of the medical staff, occasionally on special subjects by physicians from outside the hospital. This medical instruction should be supplemented by recitations from text-books, which may be conducted by the physicians, the superintendent of nurses, her assistant and the supervisors. The technic of nursing, however, which a physician perhaps ought to know, but which he usually does not, should be taught to small divisions of the classes by the superintendent of nurses, her assistant, the supervisors and the head nurses of the various wards. Special subjects, such as hydrotherapy, massage, physical training and cooking, should be taught by especially employed teachers, or by specially trained graduate nurses. The apothecary of the hospital can give the practical demonstrations in materia medica. If the work is to proceed satisfactorily, reasonable time must be allowed the pupils for study and for the various exercises of the school.

#### QUALIFICATIONS OF PUPILS.

The pupil nurse should be not less than nineteen nor more than thirty-five years of age, and preferably should have had at least the instruction of one year in a high school or its equivalent.

#### COMPULSORY EDUCATION?

Should it be compulsory for all, both men and women, who enter the nursing service of the hospital to join the training school? It is desirable, but perhaps it is not always possible to insist upon it. It may be necessary at present to employ some who will not join the school and who may be called attendants to distinguish them from members or graduates of the school, who are called pupil nurses or graduate nurses, and no doubt it is well to distinguish between the graduate nurses and the attendants not only by the positions which they occupy but also by the money compensation which is given them.

#### INSTRUCTION TO ATTENDANTS.

It would, however, seem highly expedient to give some form of instruction to the attendants, who do not join the school, in the form of demonstrations in housekeeping and general nursing in order to obtain from them a more satisfactory service.

## FUNCTION OF THE NURSE.

It is the function of the nurse to assist the physician in the care of his patients, and in so doing to render personal service to the sick. Assistance to the physician in the care and treatment of the insane is greater, more important and calls for a higher service than in any other form of disease, and the need for careful instruction and training is correspondingly greater. The nurse must not only minister to the bodily needs of such patients, but tactfully and with good judgment influence and direct the conduct of those who have to a greater or less degree lost the ability to properly care for themselves. In order that this assistance and service may be intelligent there is need of instruction similar in kind to that of the physician, though differing in degree.

## WHAT NURSES SHOULD BE TAUGHT.

Nurses should have some knowledge of the body, with which they are concerned in the general nursing of all diseases, and of the mind, to which they minister in cases of nervous and mental diseases. An elementary knowledge of anatomy, physiology and psychology therefore should be taught.

The nurse also should know something of personal and public hygiene, the germ theory of disease and its application in medicine and surgery, the appearance, methods of administration and the effects of the more common drugs, cooking for the sick, bandaging, massage, hydrotherapeutics, the more common medical and surgical diseases, including contagious diseases, obstetrics, gynecology, diseases of children, nervous diseases and insanity.

In order that the assistance and service of the nurse may be not only intelligent but acceptable, instruction should be given in the ethics as well as in the more practical matters of the technic of nursing.

## NURSES SHOULD BE TAUGHT GENERAL AS WELL AS SPECIAL NURSING.

The question has been raised whether nurses in a hospital for the insane should be taught only the care of cases of mental diseases or whether their training should include general nursing as well. Your Committee has no doubt that they should be instructed in general as well as in special nursing, just as the physician who is a specialist should have a general medical educa-

tion. Moreover the nursing of cases of insanity does not differ in many respects from the nursing of other diseases. The routine work of the nurse in the personal care of the patient—such as bathing, care of the teeth, hair and nails, changing clothing, massage, hydrotherapy, taking and recording of the pulse, blood-pressure, and temperature, the keeping of charts and daily records, making of beds and care of the sick room, cooking for the sick, serving food nicely, and other matters of personal service, does not differ much whatever the case may be. It is the intelligent and acceptable doing of all such things which in so large a measure constitutes the good nurse and which, perhaps, can be even better taught in hospitals for the insane, where they are often done under great difficulty, than in those for general diseases, where the patient usually co-operates, or at least does not resist; while habits of observation, carefulness, tactfulness and patience, and a kind consideration for the sick can be much better taught there.

#### PRACTICE IN GENERAL NURSING TO BE OBTAINED OUTSIDE THE HOSPITAL.

Hospitals for the insane are somewhat deficient in opportunities for practical work in nursing medical and surgical cases, although the larger the hospital the greater the opportunity. They therefore must get a part of this practice for their nurses outside the hospital, either in district nursing or through an alliance with a general hospital, just as the general hospitals themselves are obliged to find opportunities outside their walls for their pupils to practice in some special departments of nursing.

#### METHODS OF INSTRUCTION.

Nurses are now taught by means of lectures, by recitations from text-books, by demonstrations and by practical work. The lectures and recitations are no doubt useful and perhaps necessary, but so far as is possible instruction should be given by demonstration with explanation and comment, and by practical application by the nurse, under competent supervision, of the knowledge received. It is quite evident that the details of housekeeping, cooking, massage, hydrotherapy, bandaging, urinalysis and the technic of nursing in general must be so taught, and that a practi-



cal knowledge of drugs is best obtained in the dispensary. It would seem to be equally evident that any knowledge of the different forms of disease, which it is proper for a nurse to have, can best be given by instruction at the bedside of the patient, which, so far as it goes, is like that given to medical students. In order to be able to observe patients intelligently and to report on their condition to the physician, the nurse must be taught how and what to observe. The clinical men who are studying their cases closely often receive the most valuable assistance from intelligent nurses.

#### LECTURES.

Lectures to nurses should be given in such form that the knowledge can be applied, or its application seen, in their work. Thus, when speaking of the skeleton, it is well to consider briefly the common injuries to which the bones are liable; when talking of respiration, diseases of the respiratory organs; etc.

#### NOTE TAKING.

It is the custom in most schools for the nurse to take notes of lectures and write them out within a few days in as good English as may be for inspection and correction. Although these notes may be imperfect the nurse is much more likely to remember something of the lecture from having written them, and it is also in a general way educational.

#### ROTATION OF SERVICE.

In order that the nurse may have variety of experience, and receive instruction in the nursing care of all forms of disease and of patients under all conditions, it is absolutely essential that there should be rotation of service. The frequency with which a change from one ward to another is made will depend on the conditions in each hospital, but usually about once in three months.

#### EXAMINATIONS.

Examinations both in written and in practical work should be held at the middle and at the end of the school year.

## DIPLOMA.

Diplomas should be awarded the students as evidence of a satisfactory completion of the course of study.

## LENGTH OF THE COURSE.

In order to teach the requirements of modern nursing it would seem to your Committee that three years is not too long a time. A minimum of two years is a necessity; three years is advised, unless there are opportunities for post-graduate courses of which the nurses can and will avail themselves.

It is recommended that formal instruction be given for eight months of the year, from October 1 to June 1, and that during each week of this time each pupil shall receive at least three hours of instruction, consisting of perhaps one lecture, one recitation or quiz, and one demonstration, with as much more time for demonstrations as can be given.

## PRELIMINARY COURSE OF INSTRUCTION.

If a three years' course is prescribed, it will be found a great advantage to give a preliminary course of instruction of from one to four months, during which time the nurse will be occupied almost entirely in study with only sufficient work in the wards to put in practice the instruction received. This preliminary course should be devoted to the study of anatomy, physiology, hygiene, bacteriology massage and the fundamentals of housekeeping and general nursing. With freedom from ward work and the anxieties of the personal care of patients, the pupil nurse can accomplish more in four months than in a whole year under the usual conditions.

## SCHEDULE OF COURSE.

Any possible arrangement of the order of studies is open to criticism. There is a tendency to put most topics as early in the course as possible, in order that the nurse may have the benefit of the instruction in the care of patients, but some must come last, and many things must be systematically taught long after the nurse has practiced them. This cannot be avoided unless a full theoretical course of instruction is given before it is put to any practical test.

A schedule is here presented for a course of two years and also one for a course of three years. Since it is practically impossible to make an arrangement of studies which would be entirely satisfactory to all schools, these are presented merely as suggestions, the order being subject to variation according to individual necessities.

#### ACKNOWLEDGMENTS.

Your Committee is indebted for suggestions and criticism to the following Superintendents of Training Schools for Nurses in hospitals for the insane: Miss Mary E. May, Willard State Hospital; Miss Marie Ferrier, Kings Park State Hospital; Miss Sara E. Parsons, Sheppard & Enoch Pratt Hospital; Miss Linda Richards, State Hospital for the Insane, Kalamazoo; and Miss Lucia E. Woodward, McLean Hospital.

In the preparation of the following schedules of practical work the writer has not hesitated to use, and even literally to copy from, the Outline of Practical Training prepared in 1906 for the New York State Hospital Training Schools for Nurses by Dr. William L. Russell, a member of your Committee.

CHARLES P. BANCROFT.

CHARLES K. CLARKE.

ARTHUR W. HURD.

WILLIAM L. RUSSELL.

GEORGE T. TUTTLE, *Chairman*.

#### LIST OF SUBJECTS—TO BE TAUGHT BY TEXT-BOOKS, LECTURES, DEMONSTRATIONS AND PRACTICE.

Ethics of Nursing.

Elementary Anatomy and Physiology.

Bacteriology.

Hygiene—Personal and Public.

Housekeeping.

Food, Dietetics and Cooking.

The more common Medical and Surgical Diseases. (Including  
Contagious Diseases.)

Technic of Aseptic Surgery.

Splints and Bandaging.

Psychology.

Nervous Diseases and Insanity.

Obstetrics and Gynæcology (Women).  
Genito-urinary Diseases (Men).  
Venereal Diseases and their effect on both sexes.  
Materia Medica.  
Physical Therapeutics—Massage, Elementary Gymnastics,  
Hydrotherapy, Application of Electricity.  
Urinalysis.  
Emergencies.  
Nursing—general and special.

SCHEDULE FOR A COURSE OF TWO YEARS.

First Year :

The Ethics of Nursing.  
The History of Hospitals ; Insanity and the Care of the Insane.  
(One or two general lectures.)  
Anatomy and Physiology—to the Nervous System.  
Bacteriology.  
Urinalysis.  
Hygiene—Personal and Public.  
Housekeeping.  
Food, Dietetics and Cooking.  
Physical Therapeutics—Massage, Elementary gymnastics.  
Bedside Instruction.  
Nursing—general and special.

Second Year :

Anatomy and Physiology—Nervous System and Special Senses.  
Psychology, Nervous Diseases and Insanity.  
The more Common Medical and Surgical Diseases. (Including Contagious Diseases.)  
Technic of Aseptic Surgery.  
Splints and Bandaging.  
Obstetrics and Gynæcology (Women).  
Diseases of Children (Women).  
Genito-Urinary Diseases (Men).  
Venereal Diseases and their effects on both sexes.  
Physical Therapeutics—Hydrotherapy, Application of Electricity.  
Emergencies.  
Observation of Symptoms with Bedside Instruction.

Nursing—general and special.

Review.

Each hospital prescribes and instructs its nurses in its own rules and regulations. Such matters therefore are omitted in these schedules.

SCHEDULE FOR A COURSE OF THREE YEARS.

First Year:

The Ethics of Nursing.

History of Hospitals, Insanity and the Care of the Insane.  
(One or two general lectures.)

Anatomy and Physiology—to the Nervous System.

Bacteriology.

Hygiene—Personal and Public.

Housekeeping.

Food, Dietetics and Cooking.

Physical Therapeutics—Massage, Elementary Gymnastics.

Nursing—general and special.

Second Year:

Anatomy and Physiology—Nervous System and Special Senses.

The More Common Medical and Surgical Diseases. (Including Contagious Diseases.)

Technic of Aseptic Surgery.

Splints and Bandaging.

Materia Medica.

Physical Therapeutics—Hydrotherapy, Application of Electricity.

Emergencies.

Observation of Symptoms with Bedside Instruction.

Nursing—general and special.

Third Year:

Psychology—Nervous Diseases and Insanity.

Obstetrics and Gynæcology (Women).

Diseases of Children (Women).

Genito-urinary Diseases (Men).

Venereal Diseases and their effects on both sexes.

Urinalysis.

Observation of Symptoms with Bedside Instruction.

Nursing—general and special.

Review.



Practical experience in a general hospital or in district nursing or in both for at least four months should be had if possible, whenever most convenient during the second half of the course.

SCHEDULES OF PRACTICAL WORK—TO BE TAUGHT, IF POSSIBLE, BY  
DEMONSTRATION.

*Housekeeping.*

Temperature and ventilation of wards and rooms.

General and special cleaning of wards and rooms.

Care of wardrobes, bureaus, etc. and their contents in patients' rooms.

Care, airing and cleaning of bedstead, mattress, blankets, and bed-linen.

Prevention and extermination of vermin—mice, moths, cockroaches, bed-bugs and lice.

Making show bed.

Cleaning, ventilating and general care of toilet rooms, laboratories and baths.

Care of cupboards and medicine closets.

Care of brooms, brushes, mops, pails and other ward utensils.

Care of dining-rooms, serving-rooms, refrigerators, water-coolers, closets, sinks, garbage pails.

Use and care of disinfectants and other poisonous ward solutions.

Care of rubber goods—air beds, sheets, hot water bags, ice-caps, enema tubes, catheters, rubber rings, etc.

Care of basins, sputum cups, spittoons, bed pans, urinals, and all other metal and porcelain articles.

Care of clothes and linen rooms:

- (a) Marking hospital and patients' clothing and ward linen.
- (b) Arranging clothing and ward linen.
- (c) Mending clothing and ward linen.
- (d) Sending clothing to and receiving it from the laundry.
- (e) Requisitions for ward supplies.
- (f) Taking out stains.

Economical use of supplies.

*General Nursing.*

Reception of patient; undressing patient and bath; care of clothing and valuables.

Making go-back bed. Open bed for patient at night.

Toilet and bath of patient in bed; washing hair, care of mouth, hands and feet.

Changing of bedding and clothing of patient in bed.

Sitting patient up in bed; getting patient out of bed.

Care of the back and other parts exposed to pressure.

Use of bed-pan and urinal, back rests, rings, hot water bags, etc.

Preparation of patient for various physical examinations.

Serving food to patients in bed; feeding helpless patients.

Giving enemata—purgative, nutrient and stimulating.

Subcutaneous injections of drugs and normal salt solutions.

Use and care of catheter; washing out the bladder.

Giving various douches.

Washing out the stomach.

Making an application of poultices, fomentations, stupes, mustard pastes, etc.

Application of ointments, liniments, etc.

Application of dry cups, blisters and leeches. Use and care of thermo-cautery.

Aspirating needles and apparatus.

Administration of oxygen, ether and chloroform.

Giving hot air bath to patient in bed.

Collection and preparation of specimens of excreta for the laboratory.

Taking and recording pulse, blood-pressure, temperature and respiration.

Observation of symptoms with bedside instruction.

Daily record of patient.

Special care of the dying.

Evidences of death.

*Surgical Nursing.*

Cleaning and disinfection of the operating room.

Making bandages, tampons, sponges, etc.

Sterilization and care of surgical dressings.

Making ether bed.

Preparations for surgical operation—(Demonstration when actual cases are not available).

- (a) Patient—bowels, bladder, skin, for anæsthesia, etc.
- (b) Operating room.
- (c) Instruments and dressings.
- (d) Solutions.
- (e) Personal preparations—hands, costume, etc.
- (f) Anæsthetist's articles.
- (g) Bed and clothing of the patient.

Assisting at surgical operations.

Assisting at surgical dressings.

Surgical emergencies.

#### *Insanity.*

Proper reception of patient in order to lessen shock of admission to a hospital for the insane.

Removal and searching of clothing.

Bath, examination of body of patient for bruises, etc.

Care of patient previous to special instructions.

Attendance on physician during his visit.

Preparation of patient for physical examination.

Assisting physician during examination.

Administration and care of medicines.

Use and care of disinfectants.

Tactful, gentle and patient methods of persuasion.

Proper methods of physical control.

Persuasion of those who refuse food.

Feeding resistive and unconscious patients.

Spoon feeding.

Tube feeding:

- (a) Preparation of food.
- (b) Preparation of patient.
- (c) Assisting the physician.

Occupation—Industrial training.

Guarding the aged against fractures and other injuries.

Observation of mental symptoms with bedside instruction.

Duties of the nurse as a companion :

- (a) Music, games, indoors and out.
- (b) Reading aloud.
- (c) Walks and drives.
- (d) Occupation.

Emergencies, and how to meet them.

States of depression of spirits ; delusional conditions :

Care in respect to toilet and clothing.

Management of conditions of restlessness and agitation.

Observation and management of delusions, impulses, obsessions and suicidal tendencies.

Care of patients who have controlling delusions.

Precautions against accidents, exposure, over-exertion, escape and suicide.

States of excitement :

Care of rooms with reference to the special necessity for ventilation, heating and cleanliness.

Special care of beds and clothing.

Dressing and undressing excited patients.

Care of mischievous, violent and destructive patients.

Observation of action of bowels and bladder.

Care of patients who wet and soil themselves.

Management of emotional outbreaks and impulsive acts.

Precautions against assaults.

Special preparation of food.

Feeding patients who require much special attention.

Bathing—care of hair, teeth, and nails under great difficulty.

Giving packs, prolonged baths and other hydrotherapeutic procedures to patients who resist.

States of dementia :

Precautions against scalding and choking by special preparation of food as to temperature, division, bones, etc.

Cultivation of habits of neatness at the table.

Care of untidy patients, correcting pernicious habits, management of incontinence.

Regulation of bowels by habit, food and exercise.

Special care in respect to toilet and clothing.

How and what to observe and how to record it.

*Epilepsy.*

Household arrangements for safe-guarding epileptics, beds, etc.  
Nursing during a convulsion; guarding against injury, exposure, choking, biting, etc.  
Nursing after convulsions.  
Nursing of status epilepticus.  
Anticipation of convulsions; auræ, mental states.  
Precautions against injuries and outbreaks.  
Management of the epileptic—mental condition.  
Nursing of epileptic excitement, depression and automatic states—preventive measures.  
Precautions in the occupations and diversions of epileptics.  
Precautions in bathing epileptics.  
Dietary of epileptics. Rectal medication.  
Care of the mouth, teeth, stomach, and bowels in epileptics.  
Night care of epileptics. Precaution against accidents.

*Night Duty.*

Attention to quiet moving and speaking.  
Modification of ventilation, temperature and lighting of wards and rooms.  
Guarding against exposure and draught.  
Systematic observation of patients.  
Nursing of sleeplessness and restlessness.  
P. r. n. remedies for sleeplessness, restlessness, headaches, back-aches, etc.  
Precautions against accidents, escapes, suicides and assaults.  
Duty of the nurse in case of fire and in other emergencies.  
Morning report on each patient.

*Obstetrics.*

Preparation of room.  
Making lying-in bed.  
Preparation of dressings, antiseptics, etc.  
Preparation of patient for confinement.  
Different positions of patient for examination or delivery.  
Demonstration with the manikin when actual cases are not available.  
After care of the mother.



General care of the baby—washing, dressing, feeding, etc.  
Complications and emergencies.

*Gynecology.*

Preparation of the table.  
Articles and instruments for examination.  
Preparation of patient for examination.  
Various positions of patient on table.  
Assisting physician.

*Contagious Diseases.*

Selection and preparation of the room.  
Isolation of the patient.  
Care of the room with reference to:  
    (a) Ventilation and temperature.  
    (b) Special methods of sweeping and dusting.  
    (c) Utilization of sunshine as a disinfectant for bedding,  
        furniture, clothing, rugs, etc.  
Disinfection and preparation of clothing for the laundry.  
Disinfection and disposal of sputa, urine and stools.  
Disposal of food left by the patient.  
Variation in nursing care, and precautions to be taken in different diseases.  
Measures for preparing patient to leave infected room.  
Disinfection of room after use.  
Care of body after death.  
Precautions to be taken by nurse for herself and for others:  
    (a) General care of her health.  
    (b) Carefulness in regard to excretions and soiled articles.  
    (c) Care and disinfection of her hands.  
    (d) Methods of disinfection of herself before associating with others.

*Emergencies.*

Methods of stopping hemorrhage.  
Artificial respiration.  
Transportation of the sick and injured.  
Preparation for reception of cases of accident or sudden illness.

First aid in cases of:

Wounds, fractures and dislocations.

Bruises, burns, and scalds, frost bites.

Drowning, hanging, inhalation of gas, choking, or asphyxia from any cause.

Sunstroke, poisoning by drugs.

Convulsions, apoplexy, fainting.

Unconsciousness from any cause.

*Splints and Bandaging.*

Kinds of splints; preparation for application.

Assisting in application.

Making and rolling bandages.

Spiral, figure of eight, spiral reverse bandage.

Arm bandage, elbow, spica of shoulder, single and double.

Hand bandages, spica of thumb.

Foot, including heel; leg, including knee.

Stump dressing and bandage.

Recurrent of head. Eye bandages.

Slings, handkerchief bandages; T, four-tailed, many-tailed, breast bandages.

Binders of various kinds.

Preparation for and assisting in application of plaster of Paris dressings.

Collodion dressings.

*Dispensary.*

Review of tables of weights and measures.

Review of abbreviations and signs used in prescriptions.

Practice in the use of weights and measures.

Making percentage solutions.

Dispensing definite doses from solutions of known strength.

The recognition, doses, and effects of some of the drugs in common use.

Different classes of drugs.

Different preparations and methods of administration.

Poisons and their antidotes.

Assisting in putting up medicines for the wards.

*Food, Dietetics and Cooking.*

## LECTURES.

## PRACTICE LESSONS.

- |   |  |
|---|--|
| 1. Chemical composition of body.<br>Food — classification, composition and use of food nutrients.<br>Fuel value of foods.<br>Care and preservation of food.<br>Fuels. Construction and use of cooking appliances.<br>Water supply.  | Building and care of fire.<br>Cold beverages.                                  |
| 2. Selection of food as regards age, occupation, climate, season of year, cost and economy, digestibility.<br>Dietaries for the sick with list of foods included in each.<br>The service of food.                                   | Hot beverages.   |
| 3. Milk and milk products.<br>Composition, care, food value.<br>Adulterations and impurities.<br>Methods of altering the taste, and of improving digestibility.<br>Methods of preservation.<br>Infant foods.                        | Toasts.<br>Fruits.   |
| 4. Carbohydrates.<br>Starch—dextrin ; cellulose.<br>Composition, food value, digestibility, effect of heat upon.<br>Composition and value of cereals and vegetables.<br>Fruits — composition and dietetic value.<br>Nuts and fungi. | Gruels.<br>Porridge, served with and without fruits.                           |
| 5. Carbohydrates, continued.<br>Dextrinized foods.<br>Sugar and sugar substitutes.  | Simple desserts with starch, as blanc mange with moss, corn starch, oat flour. |

- |  |   |
|--|---|
| 6. Proteids.   | Eggs.   |
| Eggs—composition, digestibility when cooked in different ways. Test for freshness. | Simple desserts with eggs.                      |
| Methods of preservation.   | Custards — baked and soft—of different flavors. |
| Oysters.   |   |
| 7. Proteids, continued.  | Broiled, baked and boiled meats and fish.       |
| Fish—composition, digestibility of fresh, dried, smoked and pickled fish.          |   |
| How to select.   |   |
| Methods of cooking, serving, and garnishing fish.                                  |   |
| Meats—composition and digestibility.   |   |
| How to select.   |   |
| Methods of slaughtering, dressing and canning.                                     |   |
| Methods of cooking, serving and garnishing meats.                                  |   |
| 8. Soups—meat and vegetable.   | Meat and vegetable soups, broths, etc.          |
| Fluid meat preparations.   |   |
| 9. Batter Mixtures.  | Bread. Cake.                                    |
| Substance used to lighten.   | Sandwiches.                                     |
| Bread and cake making.   |   |
| Sandwiches.  |   |
| 10. Fats—animal and vegetable.   | Salad dressings.                                |
| Composition. Digestibility.  | Salads.   |
| Salads and their use.  | Boned birds.                                    |
| 11. Gelatinoids.   | Gelatine dishes.                                |
| Gelatine; source, properties, kinds.   | Ice cream.                                      |
| Directions for preparing and serving gelatine dishes.                              |   |
| Frozen desserts.   |   |
| Sherbets.  |   |
| Ice creams, etc.   |   |

## 12. Diabetic foods.

Brief review of physiology of digestion.  
Peptonized foods.

Diabetic foods.

Peptonized milk.

Gruel. Jelly.

Egg nog.

Oysters, etc.

*Hydrotherapy.*

Assisting in hydrotherapy room:

- (a) Preparing patient for bath.
- (b) Duty of the nurse during and after the bath.
- (c) Precautions to be observed.
- (d) Demonstration of effect of baths on pulse, temperature, respiration and blood-pressure.

Technic of various hydrotherapeutic procedures:

- (a) Sponge bath.
- (b) Ablutions.
- (c) Affusions.
- (d) Dripping sheet.
- (e) Local baths—sitz, foot, etc.
- (r) Compresses of throat, chest and abdomen.
- (g) Packs—dry, wet, hot, cold, local, and general.
- (h) Continuous baths.
- (i) Brand bath (for reduction of bodily temperature).
- (j) Alcohol rub.
- (k) Salt rub.
- (l) Hot air bath.
- (m) Vapor bath.

*Electricity.*

Static breeze, spark.

High frequency current.

Faradic battery, portable.

Galvanic battery, portable.

*Elementary Gymnastics.*

Simple gymnastic exercises intended to secure symmetrical muscular development, correct posture in standing and walking, and free use of the organs of respiration.



- (a) Introductory exercises—correct standing position, etc.
- (b) Arch flexions.
- (c) Arm extensions.
- (d) Balance exercises.
- (e) Back movements.
- (f) Abdominal movements.
- (g) Lateral trunk movements.

Breathing exercises are to be combined with all the above movements.

*Laboratory.*

Urinalysis:

- Color, odor, etc.
- Specific gravity.
- Reaction.
- Sediment.
- Test for albumin.
- Test for sugar.

See casts of the urinary tubules and various bacteria under the microscope.

*Care of the Dead.*

- Preparation of body for the undertaker.
- Preparation of body for autopsy.
- Preparation for autopsy at hospital and in a private house.
- Assisting at autopsy.
- Care of body and room after autopsy.

REFERENCE AND TEXT BOOKS.

*Anatomy and Physiology.*

- Hutchison.* Physiology and Hygiene for General Readers. N. Y., Maynard. \$1.10.
- Kimber.* Text-book of Anatomy and Physiology for Nurses. N. Y., Macmillan. \$2.50 Net.
- Hough & Sedgwick.* Human Mechanism. Boston, Ginn. \$2.00
- Martin.* Human Body. N. Y., Holt. \$2.50 Net.
- Kirke's* Hand-book of Physiology, by W. D. Halliburton. Phila., Blakiston. \$3.00 Net.
- Gray.* Anatomy. Phila., Lea. \$6.00 Net.

*Hygiene.*

*Pyle.* Manual of Personal Hygiene. Phila., Saunders. \$1.50 Net.

*Egbert.* Manual of Hygiene and Sanitation. Phila., Lea. \$2.25 Net.

*Harrington.* Practical Hygiene. Phila., Lea. \$4.25 Net.

*Bergey.* Principles of Hygiene. Phila., Saunders. \$3.00 Net.

*Bacteriology.*

*Stoney.* Bacteriology and Surgical Technique for Nurses. Phila., Saunders. \$1.50.

*Muir & Ritchie.* Manual of Bacteriology. N. Y. Macmillan. \$3.75.

*Materia Medica.*

*Stoney.* Materia Medica for Nurses. Phila., Saunders. \$1.50 Net.

*Potter.* Compend of Materia Medica. Phila., Blakiston. \$1.00.

*Dock.* Text-book of Materia Medica for Nurses. N. Y. Putnam. \$1.50.

*Dietetics.*

*Hutchison.* Food and Principles of Dietetics. N. Y., Wood. \$3.00 Net.

*Farmer.* Food and Cooking for the Sick and Convalescent. Boston, Little & Brown. \$1.50 Net.

*Hill.* Cook Book for Nurses. Boston, Whitcomb & Barrows. \$0.75.

*Sachse.* How to Cook for the Sick and Convalescent. Phila., Lippincott. \$1.25 Net.

*Friedenwald & Ruhrah.* Dietetics for Nurses. Phila., Saunders. \$1.50 Net.

*Medicine and Surgery.*

*Senn.* Nurses' Guide for the Operating Room. Chicago, Keener. \$1.75 Net.

*Fowler.* Operating Room and the Patient. Phila., Saunders. \$2.00 Net.

*Osler.* Principles and Practice of Medicine. N. Y., Appleton. \$5.50 Net.

*Obstetrics and Gynecology.*

*Fullerton.* Hand-book of Obstetric Nursing. Phila., Blakiston, \$1.00 Net.

*De Lee.* Obstetrics for Nurses. Phila., Saunders. \$2.50 Net.

*Physical Therapeutics.*

*Baruch.* Principles and Practice of Hydrotherapy. N. Y., Wood. \$4.00 Net.

*Graham.* Massage. Phila., Lippincott. \$4.00 Net.

*Nursing.*

*Weeks.* Text-book of Nursing. N. Y., Appleton. \$1.75.

*Hampton-Robb.* Nursing—its Principles and Practice. Phila., Saunders. \$2.00 Net.

*Humphry.* Manual of Nursing. Phila., Blakiston. \$1.00 Net.

*Wilcox.* Manual of Fever Nursing. Phila., Blakiston. \$1.00 Net.

*Wilson.* Fever Nursing. Phila., Lippincott. \$1.00 Net.

*Granger.* How to Care for the Insane. N. Y., Putnam. \$0.60.

*Wise.* Text-book for Training Schools for Nurses. 2 vols. N. Y., Putnam. \$1.25 each.

*Burr.* Primer of Psychology and Mental Disease. Phila., F. A. Davis & Co. \$1.25.

Hand-book for Instruction of Attendants on the Insane. 4th Ed. Boston, Old Corner Bookstore. \$1.00.

*Robb.* Nursing Ethics. Cleveland, Savage. \$1.50 Net.

## Clinical Psychiatry.

### CLINICAL DEMONSTRATIONS.

By CLARENCE B. FARRAR,

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#### V.

##### ARTERIOSCLEROSIS CEREBRALIS.

*Organic epochal psychosis in a man in the devolutional period. Onset with a "seizure." Duration to date about four and a half years. Course characterised by striking variability of symptoms and irregular recurrence of seizures. Disease not conspicuously progressive. Higher intellectual faculties preserved. Insight intact. Permanent mental invalidism.*

In the foregoing demonstration was opened the chapter of the epochal psychoses of later life, and we shall to-day continue the subject by presenting another case of entirely different type, although belonging to the same broad group of involutional psychoses.

In contrast to the epochal cases of other times of life taken together, we find that in the insanities of the senium and präsenium organic brain lesions are much more common as etiologic factors and more constant as anatomic findings, although here, too, we meet with conditions in which no definite and specific pathology has yet been recognised. As such are to be classed the cases of involutional depression described in the last hour as *melancholia vera*. Many of these patients, perhaps a fourth or a third, recover; and while we find practically always in such as come to section that morbid changes have taken place in the cortex, it is not possible to indicate any peculiar association between these changes and the characteristic clinical evidences of the disease.

The alterations are as a rule simply those of an involutional brain, and among them those of the vascular system are of course most frequent and widespread, although not of such character or degree as to determine the clinical picture.

With the condition we are to study to-day, the situation is different in that we have to do with a disease with a clinique and a pathology which can in good measure at least be correlated,—in other words, with an *organic epochal psychosis*.

The patient, Judge B., is 61 years old and unmarried. He enters the room with a brisk step, takes a conventional survey of his surroundings, replies pleasantly to our salutation, and seats himself promptly in the chair offered him. He understands that he has been asked to come in order that his case may be discussed in clinic and readily lends himself to the occasion.

In his exterior we see a man of good physique, properly clad, but with cravat carelessly adjusted and other evidences of lack of scrupulous attention in his general make-up; complexion slightly florid, hair grey and becoming sparse over vertex, face smooth excepting a grey mustache. The features are symmetrical and regular, the countenance is not scarred with lines, and there is no habitual contraction of any of the facial muscles. His expression betrays nothing unusual, but suggests intelligence, acumen and an appreciative interest in his environment.

He embarks easily in conversation, and before we have proceeded far with questioning, continues spontaneously with the narrative of his illness of which he has a just appreciation and a good memory. If we turn his recollection further backward he becomes reminiscent, and furnishes freely the details of his life, interspersing the account with numerous amusing anecdotes.

We learn that the patient is the fourth in a family of nine children of whom a sister and two younger brothers are still alive. The youngest, by ten years the patient's junior, has had several apoplectic attacks, while the other is a ne'er-do-well of dissipated habits, to whose support as well as to that of various others of the family Mr. B. has always been obliged to contribute. He is a native of Virginia and traces his descent directly from one of the original settlers of that State. At the opening of the Civil War, being then seventeen years of age, he joined the Confederate Army in which he served with distinction. Of his numerous



war reminiscences he enjoys particularly relating how while discharging his duty as courier he was picked by a sharp-shooter who sent a bullet through his right foot. Amputation of the third toe was necessary and he was henceforth known as "notorious B."

In his post-bellum career Mr. B. devoted his energies to journalism and the law, to which latter he finally confined his attention exclusively. His keen ambition, quick intelligence and indefatigable industry brought him to a reasonable degree of success and honor. He occupied in turn several responsible municipal offices and was at length raised to the position of Chief Justice of the Orphan's Court of Baltimore City, in which capacity he was serving when overtaken by the illness we are about to consider. He enjoyed a wide and distinguished acquaintance and reckons among his friends many persons of note of whom he is still able to detail a surprising wealth of interesting recollections.

It is to be noted that the patient is the only one of the four brothers who reached any accomplishment, the only one in the family also who was self-supporting. His three brothers were alcoholic, and being the eldest son in a large family whose material goods had dwindled during the War, unusual responsibilities fell upon Mr. B. while still a young man and it was largely on this account, he says, that he never married. In his own habits he was always decidedly temperate, almost abstemious, as regarded alcohol. To Venus, however, he was devoted and admits specific infection (ca. 1890) as well as recurrences of Tripper. To these things he sometimes refers, suggesting that if he had led a more orderly domestic life he might perhaps have been saved from his present situation.

In his religious life the patient appears to have been healthy. He was an occasional conventional church-goer but never affiliated with any denomination.

All of these facts and as many more as we like he is ready to supply, for we have crossed him in a communicative mood. His narration abounds in circumstance and there is present an unmistakable tendency to digression in which not infrequently the main issue of thought is lost and forgotten in the accumulation of self-suggesting associated details. To brief casual observation, if the patient is left to his own spontaneous expression, little abnormality

may be noted beyond this inclination to *reminiscent digressive garrulity* which is not in itself characteristic of the psychosis present, except in so far as it may occur as an epochal sign.

As Mr. B. continues his story, however, he pauses from time to time at a loss for a name or a date, and it is soon apparent that his *time sense* is very uncertain and untrustworthy. He readily transposes events in his narration, on different occasions gives varying dates for the same event, and is even for the moment unsure whether we now write 1897 or 1907. This in spite of the fact that he punctiliously reads the daily papers. Of this memory defect he is conscious and comments that he has for several years suffered with "aphasia."

A third symptom consists in a mild *emotional instability* which is just noticeable at times in an undue expression of feeling, an unsteadiness of the voice, perhaps even a slight show of tears, when he speaks of the past kind offices of some friend. At once recovering, he refers with intended compliment to the pleasant acquaintances he has made among physicians, and backs this with the observation, which, he smilingly adds, does not represent his own opinion, that doctors are men who pour drugs of which they know little, into bodies of which they know less, to cure diseases of which they know nothing.

When we mention the rather conspicuous and coarse *tremor of the hands*, which is exaggerated under observation or when the patient tries to hold them steady, but which has not the character of an intention tremor, we shall have practically exhausted the symptoms which lie upon the surface at the present moment.

If now we go backward twenty-four hours and fancy our interview taking place yesterday, we shall have quite a different picture. We shall find the patient in bed with his room darkened and the door carefully closed. Although wide awake he takes no notice of our approach. His countenance expresses morose gloom, and at times a suggestion of cynical resignation. To our inquiry if he has slept, he mutters in low monotone, "there's no more sleep for me in this world"; and to our further question if he desires anything, he rejoins shortly, "to be left alone,—to lie here undisturbed for countless centuries." He is evidently in no humor for conversation and if we persist in the effort to engage him, he impatiently turns his back to us, closes his eyes and remains silent,

or brusquely asks us to withdraw. His customary courtesy and politeness are hardly in evidence. With perfect insight he declares that his condition is hopeless, that no one can do anything for him, that his life has become a useless burden, a treadmill existence which seems never ending, that it is folly and weariness to spend words in the matter.

In the present phase of the disease, Mr. B.'s life passes in an alternation of these two states,—affability, deferential politeness, circumstantial communicativeness, on the one hand; taciturnity, seclusiveness, irritable moroseness, on the other. We are thus accustomed to speak of his good and bad days, which sometimes follow each other for short periods in alternating sequence. Again, several approximately good days may occur together, or, not infrequently, a week or more may pass during which he is fairly inaccessible. It is perhaps most common of all, however, for a good morning to be succeeded by a bad afternoon. On such days the patient has used up his powers of resistance by noon, often neglects his mid-day meal or retires to bed at once thereafter, avoiding supper and keeping his room till the following day. This recurring exhaustion of the power of common adaptation and reaction, when the day is but half done, is to be noted as an important and characteristic symptom. Two other circumstances may also be mentioned in connection with these alternating states, namely, that the transition is often surprisingly abrupt, and secondly, that the patient's mental states stand in no demonstrable relationship to barometric conditions, as is frequently observed, particularly in certain allied states to be referred to later.

The successive occurrence of short depressive phases with intervals of almost normal euphoria might possibly suggest the alternations of *Cyclothemia*. With the bare fact, however, that such successively contrasting phases are present, the similarity ends. Until his fifty-eighth year Mr. B. was mentally sound, his character has been substantial and independent, his affect stable, his temperament even. Moreover on his bad days his insight is as a rule quite as keen as during his more comfortable periods. There is no conspicuous objective inhibition, and fundamentally the same ideational groundwork obtains throughout. Thus, on the good days there is no pathologic euphoria, no increased divertibility of

attention, no ideational flow beyond such as corresponds with the mild loquaciousness of early senescence.

Having viewed thus summarily the personality of Mr. B. as we find him to-day, we must again have recourse to his history for a very important and striking symptom, the one indeed which has initiated and punctuated his illness. He speaks of having suffered from *aphasia*, and in explanation describes a series of characteristic *seizures* which have occurred at irregular intervals during the past four years.

This first of these took place in November, 1902, the patient being then 57½ years old. According to his own account he arose one morning, apparently in his usual health, dressed himself and was about to leave his room when suddenly he experienced a sensation of faintness and giddiness. He felt his consciousness waning but is not certain whether it was entirely abolished. He only knows that he lay down for a short time on a sofa, after which he was able to make his way to an adjoining room and report his need for medical attention. During the morning he states that the sensation of fading consciousness several times recurred; there was no pain and no paralysis. The patient was nevertheless found to be in a condition of nervous collapse, tremulousness, uncertainty and difficulty in walking, general muscular weakness. He was taken to a hospital where he was kept in bed for several weeks, after which he took a month's holiday at Atlantic City, returning then (early February, 1903) to resume his judicial duties. During the month, however, he was a second time cut down, losing consciousness and falling on the street. Premortory symptoms had been present in the form of mild sensations of dizziness and faintness which he had disregarded or was endeavoring rather to "walk off." After a few weeks in a hospital again, Mr. B. once more made the attempt to take up his profession, but other attacks of a similar nature supervened and he was finally sent for a vacation to relatives in the South. He recollects that for a short time preceding as well as following these seizures he often experienced difficulty in finding the right word to express his meaning, and that one of his physicians explained to him that he was suffering from attacks of aphasia. Slight evidences of this trouble we have seen during the interview today.

After a few months absence, the patient returned to Baltimore

and for the third time set himself to take up the broken thread of his professional life. Another seizure, coming during the following winter (1903-04), placed the final veto to his activities, and since this time, January, 1904, he has had the painful consciousness of being a mental invalid.

He has now been under observation three years, having been admitted to the hospital in February, 1904. Between this date and December, 1905, five seizures of approximately uniform quality have occurred at intervals varying greatly in length, the total number from the beginning in November, 1902, being about 12, making an average of about four a year during the first three years' illness.

These attacks happen usually in the early forenoon and cast their shadows two or three hours before. It is observed that the patient on rising in the morning is a little more uncertain than usual in his movements, his fingers have an unwonted tremulousness, in dressing himself he is clumsy and careless, and he may find actual difficulty in grasping and using some toilet or table utensil. His speech is also affected, articulation becomes somewhat jerky and a more or less pronounced *motor aphasia* manifests itself. In his handwriting a degree of incoordination and a conspicuous coarse tremor are displayed. At such a time the patient may be uncommonly restless and apprehensive and objects to going to bed or lying down and vigorously opposes any suggestion to that effect. He seems to be struggling with vague consciousness against what is to come, he tries to narrate a story in which he loses words, repeats phrases, and soon becomes hopelessly lost.

At length the crisis comes and he falls to the floor unconscious. There may be sphincter incompetence, the face is flushed, becoming perhaps cyanotic, breathing stertorous, skin bathed in perspiration. Exaggerated muscular hypertonus is the rule, twitching of muscle groups may or may not be present. Pulse and blood-pressure are elevated, the latter having been once recorded at 195.

The period of entire oblivion lasts only a few moments. Soon the patient begins to turn and writhe in bed where he has been placed, struggles blindly against restraint, and if left to himself clambers out of bed and staggers about the room with bending knees, frequently stumbling against the wall head-foremost. By



little and little his movements seem to take purpose and he gropes with uncertain motion for the door, which he tries to open. Failing in this he again curves about the room, runs against the bed and falls across it, but straightway struggles to his feet, and eventually reaching the door again makes the attempt to escape.

At the same time he begins to articulate thickly, scarcely intelligible syllables, among which a word or phrase is now and then successfully brought out. It is soon apparent that an exaggerated sensori-motor aphasia and paraphasia are present, and may persist for several hours, clearing up very gradually. At first the patient is completely inaccessible and seems practically unconscious of his surroundings, these symptoms likewise disappearing by almost imperceptible gradations.

The following is a sample of the post-critical paraphasia, taken just after articulation had become intelligible and while the patient was wandering helplessly about the room:

Oh my God!—please mi—el—please me please—please you please me please—(reaching the door)—please open me—please me open—please you pread me—please you pill me—Oh the weakness again.—Oh gentlemen plead you please me—please you presently—plead you prejudice—please you give me—Oh won't you please me—please you damage me—Oh please you let me damage you—Mr. xxx (miscalling a nurse) please you damage you please—Oh if you just let me damage you please—I won't damage anything else—please you damage you let you plead—please let me please you—let me hatchet please you—plead let me hatch you please—please let me plead for you—I beg you to let me plead you—Oh my God Almighty—please you 'cuse me—please shave you please me—please you let me clead you plead you—plead you please me—will you plead me now—good bye won't you—let me beg you—please you—you know how to plead me please—don't saw me—don't antidote me—are you acquainted with the pleading that plead—won't you plead me already—oh the bowels—the terribleness—are you some individual—do you live—won't you serve you—serve me—'cieve me deed you please—let me deed you please you plead—let me go independent of you—deed you please deed me—Oh my God don't deed me Oh please deed me—oh beg my pardon—For God's sake—oh God me deed me please—ace of spades—let me save you (noting hands and face wet with perspiration) see how wet you 'tis now—please me wet yet—let me wet you please you—Mr. plead deed me—plead you deal—won't you let me go to the deed signs—please let me sheeve with you—won't you let me bleed with you—ace of spots—you know what it is—let me plead you with that—plead let me go—ain't this a good thing—

take me abroad—(feeling his melted shirt) all these shirts—melted shirts feel my pains dirty—oh my God—age of plead with you—oh yes—you don't by shade me death—object of take me—ace of spades—You can get me loose bands—is that what you take grounds against you? Is that to plead—your stuff to drink—you want to dock me—plead rations in summer it'll go against me—please you judge and paste.

Such in general is the nature of a typical severe seizure. Minor variations, of course, occur, particularly in intensity and duration of symptoms. Occasionally the prodromal events have been very inconsiderable, consisting simply in a somewhat increased difficulty which the patient encounters in finding the right word to express his thought. He then suddenly and without warning falls unconscious, perhaps while reading the newspaper or during a game of cards. Consciousness gradually returns within a few moments and at the end of an hour or two he is as good as before the attack. Again, fairly marked clonic and tonic phases may be present, succeeded by a stuporous or somnolent stage of one or more hours' duration, the series of events simulating more or less closely an epileptic seizure. It has also happened exceptionally that the disturbance of motor speech has reached a very exaggerated degree preceding the attack, to be hardly noticeable with the return of consciousness.

We have spoken of the remarkable alterations in the affect state, and while these have been present throughout Mr. B.'s illness, the general condition of the affect has changed somewhat with the duration of the disease. We have noted that at present during the depressive periods as well as in the freer intervals, his insight is good and autognosis and autoprognosis correspond approximately with the actual situation and outlook. In the earlier part of his illness, however, the depressive phases were much more intense and protracted than they now are, insight was only partial, the condition of his worldly affairs as well as the state of his mental and physical health were represented subjectively in the darkest colors, and *depressive delusions* referring to past, present and future, especially the latter, were rampant. There would thus result a condition of apprehensive panic in which the patient was only partially accessible and which might superficially suggest the states of fearful agitation met with in true melancholia. But the retroactive and alloistic autoaccusation of the melancholiac, as well as his con-

stantly perverted insight and intense and unvarying subjective certainty, are not in evidence in the case of Mr. B. His phases of despairing agitation on the contrary, are always the direct outgrowth of a just appreciation of his condition and his disease, insight becoming temporarily warped only with the acme of the depressive affect.

He is at the period of life when wife and children are no longer considered luxuries and he realises gloomily his aloneness in the world. Further, the fact that he is not financially independent contributes not a little to the burden he consciously labors under; and finally, the sensibility that his disease is incurable, that he will no more be able to earn his own bread, having been so short time ago a much valued official in the city government, that now his social and official credit has been reduced to nil, that his friends and former associates look upon him as a man whose mental health is broken,—the subjective appreciation of all these facts has furnished a sufficient basis for the depressive phenomena present throughout in periodic exaggeration, especially earlier in the illness.

The affect crises have therefore been expressed chiefly in *delusions of poverty*, which as we have seen have their basis in fact. When the tide of depression is at the full the patient has often manifested extreme restlessness, pacing up and down his room, twisting his hands, declaring himself to be a pauper, "without a change of clothes in the world." If then his attention was called to his belongings in his trunk or wardrobe he would handle them nervously for a moment or two, denying positively, however, that they were his own. He would declare that he must be turned out on the street to beg his bread or to die, that he had no home or shelter and nowhere to lay his head. Often enough he would entirely disrobe, regardless of time or place, affirming excitedly that the garments he had been wearing were not his and that he must be sent to wander in the primeval forest.

He has freely discussed suicide, begging to know how much longer this existence of torture must continue and entreating us to give him something to end his wretched life. When brought to the hospital it was with difficulty that he was restrained from precipitating himself through the car window.

The acute *disease-insight* in the case of Mr B. has been empha-

sised as an important and distinguishing character. We may, therefore, accept his account of certain subjective phenomena which were present during the initial period of his illness before mental invalidism was complete, but to which at the time he did not attach adequate significance. In his own words, he noted "impaired memory," "lack of grasp," "difficulty of concentration." Protracted mental application was found to require unusual effort, this being noticed at first only occasionally, but gradually more constantly; initiative suffered, new work was hard to begin, activity tended to subside progressively into routine; names and dates assumed at times a startling and annoying evasiveness; ordinary mental labor was followed by unwonted fatigue, and the desire for rest became more and more insistent; there developed a varying degree of restless irritability and mild hypochondriac depression. The patient was aware, further, that his vision was failing, that print finer than long primer, had become for him more or less blurred and illegible.

All of these *premonitory symptoms* were of course highly characteristic, and considered in association with the seizures furnished a clear indication of the nature of the process. The seizures, however, remain the most striking and characteristic feature, and indeed of all the varied manifestations of nervous and mental disease, the one which impresses itself most deeply in the mind of the observer is the sudden, even lightning-like stroke in which consciousness is seriously involved or abolished, and, at the same time occur diverse irritative motor phenomena, often of an exaggerated character.

Let us therefore inquire for a moment what are the chief conditions to be borne in mind in cases with "seizures" expressed in profound modification of consciousness and of motor innervation?

In the first place *epilepsy*, a disease in which the critical attacks or equivalents may assume the greatest variety of forms. In our patient the periods of brief unconsciousness with muscular relaxation might perhaps be mistaken for a manifestation of *petit mal*, while the more grievous attacks with violent motor symptoms would similarly arouse suspicion of *grand mal*. The constant presence, however, of a conspicuous pre-and post-critical aphasia or paraphasia would be likely to put one on the right track. Moreover the epileptic spasm is regularly over in a few moments, while



in Mr. B.'s case the motor phenomena neither pass through the orderly sequence of the typical epileptic seizure, nor are they so narrowly circumscribed in time, clonic movements often occurring irregularly for a half hour or an hour. Thirdly, the post critical stupor and somnolence or the epileptic are much less marked in the present instance. Commonly enough indeed an exaggerated degree of motor restlessness with violent resistiveness develops within a few moments after the onset of the attack, to subside only gradually with the corresponding clearing of consciousness. If there should still remain a suspicion of epilepsy it is minimised when we recollect that epilepsy is essentially a disease of youth, probably three-fourths at least of the cases developing before the twentieth year, and that of the instances of so-called *late epilepsy* certainly the greater number, if not all, are due to or associated with cardiovascular lesions analogous to those in the present case. They are not therefore examples of true epilepsy and it is unfortunate that the term should be applied to them. Finally, Mr. B. shows none of the traits of the epileptic character. The stiffened, sluggish, circumscribed mentality, the egocentric narrowing of consciousness, the tendency to religiosity and other moral defects, are all absent.

Having ruled out epilepsy, we must next think of *paresis*, another disease in which a wide diversity of irritative and paralytic motor crises is observed. We know that occasionally this malady makes the first spectacular announcement of its presence in a seizure of an epileptiform or apoplectiform type which may pass without residual motor symptoms or at most a transitory one-sided weakness, and after which the patient may for months be able to continue his usual mode of life. Here again as in the case of epilepsy the question of age is all important. If the latter is a disease of youth, paresis is preeminently the disease of the prime of life, probably four-fifths of the cases occurring before the fiftieth year and the great majority between the ages of thirty-five and forty-five. With a patient therefore who has reached Mr. B.'s years before the crisis comes, the probabilities are against paresis. Paretic seizures which closely simulate the apoplectic stroke are rare, while those of an epileptiform character are more common, especially the Jacksonian type. The duration of the attack is, however, often the most striking feature in such cases, convulsive



seizures involving various muscle groups, recurring almost without interruption for hours or even days. Crises of this sort our patient has never had, and further, his retained pupillary reflexes and the absence of the characteristic speech disturbance of the paretic are of diagnostic moment. His disease has now lasted over four years, and has been marked by numerous severe seizures, and we find him nevertheless still a man of judgment, able during his better periods to discuss the affairs of the day, or carry on a line of argument, drawing upon a responsive memory for illustration, and quite capable at such times of sitting down with ladies or gentlemen for a social chat without breach of decorum or failure to hold his own. In other words, while the subjective symptoms and crises have been severe, the course of the disease has not been rapidly progressive, and no considerable degree of mental weakness has been reached as would almost certainly have been the case in paresis of like duration and number of seizures. Finally is to be emphasised an essential difference in the onset of the two maladies, in the majority of cases. Characteristically an early paresis is an *objective* disease, an early central arterio-sclerosis is a *subjective* one. Accordingly the first symptoms of the paretic, slight alterations in habits, disposition and character, are commonly noted by his family and friends, while in the case of the involutional arterio-sclerotic the initial symptoms may long be confined within the circle of the patient's own consciousness, resulting in a growing dysphoria which is characteristic. The difference, in short, is one of *insight* which in the developing arterio-sclerosis is preserved or aggravated, and in the case of paresis more often dulled or lost.

Having satisfied ourselves that seizures of such nature as those of Mr. B. are neither epileptic nor paretic in origin, the question of *alcoholism* arises. Here we have in the first place the toxic convulsive seizures sometimes observed in direct association with alcoholic excesses, especially as a manifestation of delirium tremens; but in such instances the fumes in the breath, the peculiar hallucinosis, the dreamlike disorientation and sensory misinterpretation noted before or after the attack, together with other immediate and palpable evidences of the drug indicate sufficiently its etiologic significance. In chronic alcoholics there is not uncommonly an association with epilepsy which requires no special men-

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tion. Further, there develops occasionally upon the basis of chronic alcoholism a series of pseudo-epileptic seizures. In such cases the history reveals no epilepsy earlier in life and their differentiation is usually not difficult. The patients present the typical alcoholic demeanor and character with its ethical and emotional defects. Moreover, neuritic symptoms of one form or another are seldom entirely lacking; and finally after a period of complete abstinence, the seizures cease to recur. We do not hesitate, therefore to rule out the possibility of alcoholic epilepsy or pseudo-epilepsy in the case of Mr. B., both from the standpoint of symptomatology and from the history. His abstemious habits have been mentioned.

*Insular sclerosis* is accompanied in some instances by epileptoid or apoplectiform attacks, but insular sclerosis like epilepsy is a disease of youth, not of old age. Moreover, in developed cases, the spastic-paretic gait, the scanning speech, nystagmus, and intention tremor, serve usually to clear up the diagnosis.

The *psychoneuroses*, hysteria and psychasthenia are notorious for their parti-colored symptomatology, in which may occur various convulsive and pseudoparalytic phenomena. There is manifestly no indication, however, for considering these conditions in connection with our patient, and with their mention we have fairly exhausted the differential possibilities.

There is but one diagnosis possible, namely, *diffuse cerebral arterio-sclerosis*, and this diagnosis is borne out by the physical signs. The peripheral arteries are everywhere markedly thickened, although this fact alone is by no means an indication that the cerebral vessels are seriously damaged. We find also a somewhat hypertrophied left ventricle, the apex beat lying without the mamillary line, a weak first sound accompanied by an apical murmur, with a considerably exaggerated aortic second, suggestive of a moderate fibrous myocarditis with dilatation. Arterial tension has been constantly elevated averaging perhaps 150, and there has been an associated polyuria with low specific gravity and traces of albumin, indicative of a degree of diffuse nephritis. The polyuria varied from day to day in the characteristic manner, and in a series of observations made some time ago the amounts on five successive days were respectively 2250, 1750, 2300, 1500, 2350 cc. Temperature has usually been slightly subnormal, particularly

It is good to merry and  
 wise;  
 It is good to be honest  
 and true;

It is good to be off with  
 the old love  
 Before you are on with  
 the new.

[This facsimile is five-sixths of the size of the original.]

It is good to [be] merry and wise;  
 It is good to be honest and true;  
 It is good to be off with the old love  
 Before you are on with the new.



in the morning, varying commonly between 97 degrees and 98.5 degrees; pulse averaging from 60 to 70.

On the neurologic side several features are to be noted. The tendon reflexes are abolished, the knee-jerks not being elicited on reinforcement. Cutaneous reflexes are sluggish and inconstant. The character of speech and hand writing has been referred to. We observe to-day only the slightest evidence of uncertain tremulous articulation, without, however, any of the catching, slurring, or drawling of paresis. The writing likewise, as you see by this example, shows a coarse and varying irregularity of movement which increases usually under observation, but without the constant fine tremulousness, the wavy, ragged strokes, the unfinished words and elisions of paresis. The general form and order of the words are preserved, and the alignment is good. The omission in the first line the patient himself noticed, and comments also upon the unsteadiness of his hand. In the first two lines, written under observation, the execution is noticeably poorer than in the last two when he did not feel that he was being watched. The pupils are usually contracted, often slightly unequal, and the light reaction has been present throughout, although in considerably varying intensity at different times. With the continuation of the disease there has been a tendency to increasing sluggishness of pupillary reaction with diminished excursion. There is no trace of hemiplegia.

To *summarise*, we have a man at the beginning of the seventh decade who four or five years ago began to notice a slightly impaired grasp of his professional affairs, an increasing difficulty of concentrated and prolonged mental effort, an undue fatigue accompanying either mental or physical labor, and an annoying forgetfulness for names and dates. These symptoms are the danger signals and may be present for years without disastrous crises, admonishing to a strictly ordered life of modified activity. In our patient on the other hand a seizure was among the earliest manifestations and practically marked the onset of the psychosis. These seizures have recurred at irregular intervals, but have tended to decrease in frequency, possibly as a result of the orderly sequence of hospital life. It is now (March, 1907) fifteen months since the last one, and the patient's condition on the whole has become somewhat more comfortable. His manner of life is fairly

circumscribed and he is very systematic in his habits, rising and retiring early, engaging sometimes in the simpler recreations and forms of exercise, and spending much time each day with the newspaper. In this way he keeps himself *au courant* with the world's doings, but his memory for the events of the day nevertheless often fails him. His initiative is small, the desire for activity largely in abeyance and an increased tendency to somnolence during the day has manifested itself. Three further characteristics of the disease are especially to be mentioned; (a) the preserved insight which enables the patient to estimate his symptoms with approximate accuracy and which results sometimes in a degree of philosophic resignation, at others in a somewhat cynical irritability. He realises that his memory for recent events is defective but shows no inclination to fill up the gaps with apocryphal material; (b) the marked and often rapid variations in the quality and intensity of the symptoms, including both the senses of general subjective fitness and the state of the affect; (c) the non-progressive course, as compared for example with paresis, the patient being now in the fifth year of the active manifestations of his disease. It is patent from our interview that there is no considerable mental deterioration; Mr. B. has not ceased to be a social being among his fellows; the superior psychic faculties (critical judgment, artistic sensibility, ethical discrimination) are still operative; and one may say that in general mentality he is practically as good as he was two years ago.

As you know, cardiovascular diseases have a peculiar tendency to recur in several members of the same family and to pass from generation to generation. In this respect, too, the present case is typical, at least five members of the immediate family (father, brother, maternal uncle, maternal aunt, maternal grandfather) having died of apoplexy. In our patient a grave apoplexy or coronary lesion is of course to be feared, but with a carefully ordered hospital régime, unexposed to stress, drug intoxications, or the shocks and exigencies of independent existence, he may for several years escape these accidents, or indeed succumb eventually to other incidents of old age.<sup>1</sup>

<sup>1</sup> April, 1907, occurred an epileptiform attack without paralysis after a free interval of sixteen months. On the following day the patient was as well as before the seizure.



## Proceedings of Societies.

### AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

#### \* PROCEEDINGS OF THE SIXTY-THIRD ANNUAL MEETING.

WASHINGTON, D. C., MAY 7, 1907.—FIRST SESSION.

The Association was called to order by the President, Dr. Charles G. Hill, of Baltimore, Md., at the New Willard Hotel, at 10.30 a. m., who said:

"It gives me great pleasure to call to order the Sixty-third Annual Convention of the American Medico-Psychological Association.

"Dr William A. White, the Chairman of the Committee of Arrangements, will introduce the gentlemen who are to welcome us to this city."

DR. WHITE.—We have with us to-day a gentleman who, at the last Washington meeting of this Association, was good enough to address us and we became so well acquainted with him at that time, I thought in my capacity as Chairman of the Committee of Arrangements that it would be advantageous to continue our acquaintance with him. I think it is well to listen to the gentleman who has charge of the public welfare in the way of public health. I have the honor and the extreme pleasure of introducing to you Surgeon-General Walter Wyman, of the Public and Marine Hospital Service, of Washington. (Applause.)

Dr. Wyman said:

*Mr. Chairman, Ladies and Gentlemen of the American Medico-Psychological Association:*

I have prepared no formal address in trying to greet you this morning. In fact, I did not think formality was what was required. As Dr. White has so pleasantly said, I feel already acquainted with this Association, having some four years ago, I believe it was, at the annual meeting here in Washington, had the pleasure of addressing a few words to you, just as I am now doing. Now I wish to say that, subsequently to that time,

I have occasionally from time to time met various members of this Association, and it has been a great pleasure to feel that they remembered me and knew me, so that I feel more or less at home with this Association and its members.

Speaking of that time three or four years ago, I will be pardoned I am sure, if I refer to the gentleman who introduced me at that time, Dr. A. B. Richardson. The years that have passed since his death have not diminished the respect and love that all who knew him felt for him. He was a member of this Association, and I am sure I am appealing to the sentiments of all here when I speak of him in these terms of affection. It seemed to me he represented the highest type of the physician and the highest type of the specialist. His methods of life, his career and his memory are all an honor, particularly to this branch of the medical profession.

As I was seated a few moments ago, I met the distinguished Secretary of this Congress of American Physicians and Surgeons, Dr. W. H. Carmalt, and he said, "You seem to be everywhere. What are you doing here?" "Well," I replied, "I have some acquaintance with this Association and I have been asked to welcome them on the part of the Public Health and Marine Hospital Service." His remark, however, brought up the idea of the connection between the Public Health and Marine Hospital Service and this Association. If I had had time, I would have shown him some good reasons why I might be here.

Of course the Public Health and Marine Hospital Service is devoted particularly to sanitation and hygiene and the medical examination of immigrants. Now there is a great connection, as I believe, between sanitation and even the matters which come before the specialists of this Association. We who are interested in the great sanitary movement which is going on and which is growing rapidly, feel that sanitation, the elimination of the slums, providing good food, water, air and sunshine, form together perhaps the most important means for the greatest good to the greatest number; that it is, in a measure, a kind of cure all for all the evils of the body politic, including individual diseases. I believe it would be a very interesting matter to study what would be the effect, if we had perfect sanitation and perfect hygiene throughout the whole United States, upon insanity and mental disorders. I feel sure that perfect sanitation and perfect hygiene would add very greatly to the amelioration of those conditions which you are called upon to treat.

Another very important part of the public health service is the detection of insane aliens. Thousands of them land at New York, Boston, Baltimore, Philadelphia, and in fact, all the ports of entry around the coast. It is our duty to detect these aliens who are insane, as well as afflicted with other diseases, and I wish to say right here that we have been aided in this work by a prominent member of your Association, Dr. White, who has kindly consented that the gentlemen on our corps who are appointed in the general service and are not specialists, and yet must have some knowledge of all specialties, may study in his institution. He



has permitted us to introduce our younger officers into his institution where they may become competent to detect insane aliens when they arrive. We have effected an exchange with him by which his own assistants may serve us temporarily at Ellis Island. You see the relation between the Public Health and Marine Hospital Service and this Association is not so far-fetched, and I am only sorry that Dr. Carmalt is not here to hear this explanation.

It is not expected that this address of welcome should be a long discourse. It was simply as a resident of Washington that I was to welcome you here to the enjoyment of the Capitol City. In doing that, you are being merely welcomed to what is really your own. I think that if there is anything that impresses the stranger in Washington, it is the fact that they are made to feel at home. Why should they not feel at home? It is their own city. Everybody, I think, who comes, has a feeling that it is their city—that it truly belongs to them because it belongs to the whole country.

I hope that before the day is over the sun will shine again and that before you go, we may be able to give you an idea of our Washington weather, which in May is so delightful. Having looked over the programme, I know you will have a very profitable meeting, and wishing you, as well, a very pleasant social time, I again bid you welcome. (Applause.)

DR. WHITE.—Perhaps there is no body of scientific and professional men who fraternize so well as the medical men. Other scientific and professional people have their organizations, it is true, but hardly to the extent that the medical men have. It is said, for instance, of the lawyers, that they have their bar associations, the only function of which is to meet, on the death of a member, and pass resolutions. This does not apply to the medical profession, and particularly here in Washington, the medical atmosphere is alive with interest in medical societies and organizations, and the medical men in Washington are always glad to welcome medical men from other cities. We have with us this morning the President of the representative medical society of this city, the Medical Society of the District of Columbia. I take great pleasure in introducing to you Dr. D. K. Shute.

Dr. Shute said:

*Mr. President, Ladies and Gentlemen of the American Medico-Psychological Association:*

I have been lecturing to medical students for eighteen years and have always done so with comparative pleasure and comfort, but I assure you there are few occasions upon which I have had to make an address of welcome, and I have always done so with mingled feelings of pleasure

and trepidation. Of course it is a pleasure to welcome to Washington a body of representative medical men and women, but it is very difficult to make a speech upon a general occasion of this character.

I certainly hope that while you are in Washington, you will have a most pleasant and delightful time, and I sincerely hope that the desire expressed by Surgeon-General Wyman that you will have a little sunshine and see Washington at its best at this season will be realized.

I trust that your sessions devoted to the study and discussion of your specialty will be profitable and pleasant. My own specialty is ophthalmology, which indeed has some connection to your special branch of the profession. In my capacity as visiting physician to one of our hospitals, it is my fortune to be brought in contact with some fifteen or twenty insane patients in the course of a year, and I therefore think that I have a somewhat amateur knowledge of insanity, and in consequence feel quite at home among you.

It seems to me one of the most interesting facts of medicine, especially of this branch of medicine, upon which American physicians can congratulate themselves, that it was in America that the old and cruel and barbarous superstition so long held, that a demon possessed the insane individual and that he should be a social outcast was first overthrown. It seems to me a great honor that an American should have started reform in this branch of medicine, as Benjamin Rush did in Philadelphia, about one hundred years ago. It was a very difficult thing for Europe to get away from the atrocities which then prevailed and to get a public spirit aroused before undertaking the task. It will do no harm to recall the fact that an American, Benjamin Rush, started this reform in treating the insane, not as demon-possessed individuals who should be chained and locked in cells, but people, simply, who had a disease of the brain.

I think this great reform in recognizing that insanity is largely, if not entirely, a matter of disease of the brain, had a great deal to do with transforming the metaphysical speculations of the middle ages into the modern experimental psychology. It seems to me one of the greatest reforms in medicine—putting the study of the human mind upon a scientific basis, realizing that no demon possessed the insane, and that in treating the insane we are simply dealing with a scientific problem of one part of the body—the human brain.

I am sorry that Congressman Barchfeld is not here because I had deluded myself with the idea that we would have an attractive address from him, and that the part I should play, in consequence, would be a very brief and formal one.

In conclusion, ladies and gentlemen, in my capacity as president of the oldest medical society of the District of Columbia, I extend a most cordial greeting to your society, in which greeting the medical profession of the City of Washington joins me, to this representative gathering. I sincerely wish for you one and all a most interesting and delightful time, as well as profitable gathering of this Association. (Applause.)

THE PRESIDENT.—Gentlemen of the Association: While it is quite true that we feel a certain claim upon the National Capitol—the institution belongs to us all—we feel the same claim that we do in our State Hospitals, penitentiaries, and other public institutions, but when we have visited those places, either from desire or from necessity, and enter into those buildings, it always is very agreeable and delightful to have the “glad hand” extended to us by those who are in charge of them.

We appreciate these kind greetings from the gentlemen representing the individuals of the city and the professional character of the city, and we appreciate very much the fact that our specialty is understood as interlinking, as it were, with all institutions for the welfare of humanity and the elevation of poor, weak, fallen nature. We appreciate very much these kind words and would ask that these gentlemen and the profession generally of the city come and sit with us whenever they have opportunity.

Before beginning the regular programme, Dr. White has some announcements to make.

DR. WHITE.—I want to call the attention of the Association to the fact that the Congress desires each member to register as early as possible at the Arlington Hotel. You will note also by the programme that there is a reception for the Congress at the White House at 2.30 o'clock this afternoon. Tickets may be had at the desk of the Secretary of the Congress at the Arlington.

The Association will leave Washington, as you know, for the Jamestown Exposition on the Norfolk steamboat that leaves Washington Thursday evening at half past six o'clock. I have made reservations for all those who made reservations by postal card.

Arrangements have been made at the Government Hospital for the Insane to accommodate you to-morrow afternoon, and I should be very glad to have as many members of the Association as possible, with their wives and those accompanying them, visit the hospital. Those of you who intend to go, will please when you pass out at the end of the session, just leave your name or card with the Secretary, so that I may have some idea of how many to expect.

THE PRESIDENT.—Gentlemen, please bear in mind that those who can accept Dr. White's invitation will please leave their names, so that we may know how many to expect.

The next order of business is the report of the Council, which will be read by the Secretary.

WASHINGTON, D. C., MAY 7, 1907.

The Council begs leave to submit the following report to the Association:

We have received, and transmit herewith, the report of the Secretary regarding the present membership of the Association.

We have also received the report of the Treasurer, which will be read in the proper order.

The Council recommends the following named physicians for active membership in the Association:

Dr. Florence Hale Abbot, Taunton, Mass.; Dr. Chas. W. Burr, Philadelphia, Pa.; Dr. George F. M. Bond, Yonkers, N. Y.; Dr. Lloyd Vernon Briggs, Boston, Mass.; Dr. Earl H. Campbell, Newberry, Mich.; Dr. L. H. Callaway, Nevada, Mo.; Dr. Charles Edward Doherty, New Westminster, B. C., Canada; Dr. W. W. Faison, Goldsboro, N. C.; Dr. Robert L. Gillespie, Portland, Ore.; Dr. Charles E. Hickey, Cobourg, Ont., Can.; Dr. William F. Kuhn, Farmington, Mo.; Dr. Oscar R. Long, Ionia, Mich.; Dr. Daniel T. Millspaugh, Paterson, N. J.; Dr. Donald Campbell Meyers, Deer Park, Toronto, Ont., Canada; Dr. J. Nicholas Mitchell, Philadelphia, Pa.; Dr. Eben C. Norton, Norwood, Mass.; Dr. William W. Richardson, Norristown, Pa.; Dr. Edward Ryan, Kingston, Ont., Canada; Dr. Frederick D. Ruland, Westport, Conn.; Dr. H. Louis Stick, Worcester, Mass.; Dr. Elmer Ernest Southard, Hathorne, Mass.; Dr. William E. Sylvester, New York, N. Y.; Dr. Malcolm H. Yoaman, Lakeland, Ky.; Dr. Philip H. S. Vaughan, Bangor, Maine.

The Council recommends the following named physicians for associate membership in the Association:

Dr. Chas. H. Clark, Cleveland, Ohio; Dr. Dana Fletcher Downing, West Newton, Mass.; Dr. E. Moore Fisher, Morris Plains, N. J.; Dr. John Gerald Fitzgerald, Toronto, Ont., Canada; Dr. Guy G. Fernald, Waverley, Mass.; Dr. Harry Reid Hummer, St. Elizabeth, D. C.; Dr. Gilbert V. Hamilton, Waverley, Mass.; Dr. Frederick Ernest Lawlor, Dartmouth, Nova Scotia; Dr. James Frederick Munson, Sonyea, N. Y.; Dr. Mitchell Charles Mackin, Clarinda, Iowa; Dr. Frederick H. Packard, Waverly, Mass.; Dr. Donald L. Ross, Sonyea, N. Y.; Dr. Jeanette Hurd Shorman, Norristown, Pa.; Dr. Robert Preston Winterode, Catonsville, Md.; Dr. Robert C. Woodman, Middletown, N. Y.

The Council recommends the reinstatement, as an associate member, of J. M. Keniston, Middletown, Conn.

The Council has considered the following applications for active membership, and in accordance with the constitution, these will lie before the Council one year before final action is taken:

Dr. Oliver C. Brunk, Williamsburg, Va.; Dr. William B. Cornell, Baltimore, Md.; Dr. Edward A. Everett, Elmira, N. Y.; Dr. M. S. Gregory, New York, N. Y.; Dr. Wilfred W. Hawke, Philadelphia, Pa.; Dr. Smith Ely Jelliffe, New York, N. Y.; Dr. William C. Krauss, Buffalo, N. Y.; Dr. Geo. W. King, Jersey City, N. J.; Dr. Chas. H. Solier, Evanston, Wyoming; Dr. Frank T. Seybert, Council Bluffs, Iowa.

The Council recommends the election of Dr. Henry M. Hurd as delegate from this Association to the British Medico-Psychological Association for 1907.

The Council recommends the election of Dr. Henry M. Hurd and Dr. William A. White as delegates from this Association to the International Congress of Neurology and Psychiatry, to meet in Amsterdam, Holland, September 2 to 7, 1907.

The Council transmits herewith a letter from Dr. C. Hubert Bond, Honorary General Secretary of the British Medico-Psychological Association, to the late Dr. A. E. Macdonald.

#### MEDICO-PSYCHOLOGICAL ASSOCIATION.

EWELL COLONY, EPSOM, DEC. 9, 1906.

DR. A. E. MACDONALD, 431 Riverside Avenue, New York.

*Dear Dr. Macdonald.*—With reference to the proposal that there should be a joint meeting of the American and British Medico-Psychological Associations, the British Committee appointed to consider this has met and has reported to the Council of our Association.

At the recent meeting of the latter I was instructed to write and ask you to be good enough to convey to the members of the American Association a most cordial invitation to attend the next meeting of the British Medico-Psychological Association which will be held in London on the 25th of July next year, and succeeding two days. (We understand that in the week following this one, the British Medical Association hold their annual meeting at Exeter in Devonshire.)

The President and Council of our Association will welcome the contribution of papers from their American confreres to the programme of the medical work of the annual meeting. They would like such of your members as propose to come over to understand that accommodation will be offered them during our annual meeting by such of our members as live in or near London.



I am also directed to add that, while the Council feels it is not possible to pledge the action of future Councils and members at distant dates, it may be taken as certain that members of our Association would gladly avail themselves, in a future year, of an opportunity to attend and take part in a meeting of the American Association.

I should mention that the idea of two joint *official* meetings—one over here and a return one in America—was duly considered. But partly because of the difficulty of pledging future Councils and partly because the necessary arrangements seemed cumbrous and inconvenient, it was felt that the idea could be as pleasantly and as fully carried out in the manner above suggested.

The President and Council would be much obliged if you will kindly let me know at an early a date as possible the number of your members that we may expect to have the pleasure of receiving at our annual meeting. I am,

Faithfully yours,

(Signed) C. HUBERT BOND,

*Hon. General Secretary.*

THE PRESIDENT.—If there is no objection, the reports of the Secretary and Treasurer will take their usual course and the report of the Council will be adopted. This carries with it the recommendation in regard to the appointment of delegates to the foreign associations engaged in our particular specialty.

I will say in this connection that these gentlemen have been taken as representative men of the Association and because it is convenient for them to attend the meetings. Should any other members of the Association be able to go, we would be very glad to appoint them also, and provide them with the credentials of the Association.

There being no objection, the various reports were declared accepted and adopted.

THE PRESIDENT.—The next is the report of the editors of the AMERICAN JOURNAL OF INSANITY.

DR. BRUSH.—Mr. President, I find I have with me the vouchers for the year, but unfortunately, I find I have left my report at the hotel. May I ask the indulgence of the Association until to-morrow morning?

THE PRESIDENT.—If there is no objection, Dr. Brush's request will be granted and we will receive the report to-morrow morning.

The next in order is the appointment of the Nominating Committee. The chair appoints as such committee the following members:

Dr. T. J. W. Burgess of Montreal, Canada; Dr. B. D. Evans of Morris Plains, N. J.; Dr. M. J. White, of Milwaukee, Wis.

Having now concluded the formal exercises, we will now declare a recess of fifteen minutes for the purpose of registration. The gentlemen will please register with the Secretary so that we may have a record of the names and addresses of those present.

The following members registered as being in attendance during the whole or part of the meeting:

Allen, H. D., M. D., Superintendent, Allen's Invalid Home, Milledgeville, Ga.

Anglin, J. V., M. D., Medical Superintendent, The Provincial Hospital, St. John, New Brunswick.

Ashley, Maurice C., M. D., Medical Superintendent, Middletown State Hospital, Middletown, N. Y.

Ballantine, Eveline P., M. D., Woman Assistant Physician, Rochester State Hospital, Rochester, N. Y.

Bancroft, Charles P., M. D., Medical Superintendent, New Hampshire State Hospital, Concord, N. H.

Beutler, W. F., M. D., Superintendent, Milwaukee Asylum for Chronic Insane, Wauwatosa, Wis.

Bradley, Isabel A., M. D., Assistant Physician, Columbus State Hospital, Columbus, Ohio.

Brown, W. Stuart, M. D., Physician in Charge, Sanford Hall, Flushing, New York City.

Brown, Sanger, M. D., Physician in Charge, Kenilworth Sanitarium, 100 State St., Chicago, Ill.

Brush, Edward N., Physician in Charge and Superintendent, Sheppard and Enoch Pratt Hospital, Towson, Md.

Buckley, Rev. James M., D. D., LL. D., Morristown, N. J.

Bullard, E. L., M. D., 402 Camp Building, Milwaukee, Wis.

Burgess, Thomas J. W., M. D., Medical Superintendent, Protestant Hospital for Insane, Montreal, Canada.

Burr, C. B., M. D., Medical Director, Oak Grove, Flint, Mich.

Busey, A. P., M. D., Medical Superintendent, Colorado State Insane Asylum Pueblo, Colo.

Caples, B. M., M. D., Superintendent, Waukesha Springs Sanitarium, Waukesha, Wis.

Chase, Robert H., M. D., Superintendent, Friends' Asylum, Frankford, Philadelphia, Pa.

Clark, J. C., M. D., Superintendent, Springfield State Hospital, Sykesville, Md.

Coe, Henry Waldo, M. D., Medical Director, Crystal Springs, Portland, Oregon.

Crumbacker, W. P., M. D., Superintendent, Independence State Hospital, Independence, Iowa.

Dill, D. M., M. D., Superintendent, Essex County Hospital for the Insane, Newark, N. J.

Drewry, Wm. F., M. D., Superintendent, Central State Hospital, Petersburg, Va.

Dewey, Richard, M. D., Medical Superintendent, Milwaukee Sanitarium, Wauwatosa, Wis.

Dunton, Wm. Rush, Jr., M. D., Assistant Physician, Sheppard and Enoch Pratt Hospital, Towson, Md.

Elliott, Robert M., M. D., Medical Superintendent, Willard State Hospital, Willard, N. Y.

Evans, B. D., M. D., Medical Director, New Jersey State Hospital, Morris Plains, N. J.

French, Edward, M. D., Superintendent, Medfield Insane Asylum, Hard-  
ing, Mass.

Gorst, Chas., M. D., Superintendent, Wisconsin State Hospital, Men-  
dota, Wis.

Gundry, Richard F., M. D., The Richard Gundry Home, Catonsville, Md.

Gundry, Alfred T., M. D., Medical Director, Gundry Sanitarium, Catons-  
ville, Md.

Guth, Morris S., M. D., Superintendent, State Hospital, Warren, Pa.

Hamilton, S. W., M. D., Assistant Physician, Manhattan State Hospital,  
Ward's Island, New York City.

Hancker, William H., M. D., Superintendent, Delaware State Hospital,  
Farnhurst, Del.

Harmon, F. W., M. D., Superintendent, Longview Hospital, Cincinnati,  
Ohio.

Harrington, Arthur H., M. D., 224 Second Avenue, New York City.

Harris, Isham G., Acting Superintendent, Hudson River State Hospital,  
Poughkeepsie, N. Y.

Hawke, W. W., M. D., Chief Resident Physician, Insane Department,  
Philadelphia Hospital, Philadelphia, Pa.

Hildreth, John L., 14 Garden St., Cambridge, Mass.

Hill, Charles G., M. D., Physician-in-Chief, Mt. Hope Retreat, Balti-  
more, Md.

Hills, F. L., M. D., Superintendent, State Sanitarium, Rutland, Mass.

Houston, John A., M. D., Superintendent, Northampton State Hospital,  
Northampton, Mass.

Hurd, Arthur W., M. D., Superintendent, Buffalo State Hospital, Buf-  
falo, N. Y.

Hutchings, Richard H., M. D., Medical Superintendent, St. Lawrence  
State Hospital, Ogdensburg, N. Y.

Klopp, Henry I., M. D., Assistant Superintendent, Westboro Insane  
Hospital, Westboro, Mass.

Lawlor, F. E., M. D., Assistant Superintendent, Nova Scotia Hospital, Halifax, Nova Scotia, Canada.

Lawton, S. E., M. D., Superintendent, Brattleboro Retreat, Brattleboro, Vermont.

McDonald, Wm., M. D., Clinical Director, Butler Hospital, Providence, R. I.

Mabon, William, Superintendent and Medical Director, Manhattan State Hospital, Ward's Island, N. Y.

Mead, L. C., M. D., Medical Superintendent, South Dakota State Hospital, Yankton, South Dakota.

Mills, Chas. K., M. D., Professor of Neurology, University of Pennsylvania, 190 Chestnut St., Philadelphia.

Millspaugh, Daniel F., M. D., Riverlawn Sanitarium, Paterson, N. J.

Montgomery, W. H., M. D., Assistant Physician, Willard State Hospital, Willard, N. Y.

Mosher, J. M., M. D., Attending Specialist in Mental Disease, Albany Hospital, 170 Washington Avenue, Albany, N. Y.

Noble, Alfred I., M. D., Superintendent, Michigan Asylum for the Insane, Kalamazoo, Mich.

Noyes, William, M. D., Superintendent, Boston Insane Hospital, Mat-tapan, Mass.

O'Brien, John D., M. D., Pathologist and Assistant Physician, Mas-sillon State Hospital, Massillon, Ohio.

Packard, F. H., M. D., Assistant Physician, McLean Hospital, Waverley, Mass.

Page, Chas. W., M. D., Physician and Superintendent, Danvers Insane Hospital, Hathorne, Mass.

Perry, Middleton Lee, M. D., Superintendent, State Hospital for Epi-leptics, Parsons, Kansas.

Pilgrim, Charles W., M. D., President of the State Commission in Lunacy of New York, Poughkeepsie, N. Y.

Potter, E. B., M. D., First Assistant Physician, Rochester State Hos-pital, Rochester, N. Y.

Powell, Theophilus O., M. D., Superintendent, Georgia State Sanitarium, Milledgeville, Ga.

Redwine, J. S., M. D., Medical Superintendent, Eastern Kentucky Asylum, Lexington, Ky.

Richardson, Wm. W., M. D., Chief Physician, Male Department, State Hospital for the Insane, Norristown, Pa.

Rowe, J. T. W., M. D., First Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y.

Russell, William L., M. D., Medical Inspector for the State Com-mission in Lunacy, 112 Market St., Poughkeepsie, N. Y.

Scribner, Ernest V., M. D., Medical Superintendent, Worcester Insane Asylum, Worcester, Mass.

Shepard, Arthur F., M. D., Superintendent, Dayton State Hospital, Dayton, Ohio.

Shirres, David A., M. D., Consulting Neurologist to the Protestant Hospital for the Insane, 670 West Sherbrooke St., Montreal, Canada.

Smith, G. A., M. D., Superintendent, Central Islip State Hospital, Central Islip, L. I., N. Y.

Stockton, George, M. D., Superintendent State Hospital, Columbus, O.

Tuttle, Geo. T., M. D., Medical Superintendent, McLean Hospital, Waverley, Mass.

Voldeng, M. N., M. D., Superintendent, Cherokee State Hospital, Cherokee, Iowa.

Wade, J. Percy, M. D., Medical Superintendent, Maryland Hospital for the Insane, Catonsville, Md.

Wagner, Chas. G., M. D., Medical Superintendent, Binghamton State Hospital, Binghamton, N. Y.

Wentworth, Lowell F., M. D., Deputy Executive Officer of the State Board of Insanity, 36 State House, Boston, Mass.

White, Wm. A., M. D., Superintendent, Government Hospital for the Insane, Washington, D. C.

Williams, B. A., M. D., Senior Resident Physician, Cincinnati Sanitarium, College Hill, Cincinnati, Ohio.

Woodman, Robert C., M. D., First Assistant Physician, Middletown State Hospital, Middletown, N. Y.

Work, Hubert, M. D., Medical Superintendent, Woodcroft Hospital for Mental Diseases, Pueblo, Col.

The following visitors and guests of the Association registered their names with the Secretary:

Anglin, Mrs. J. V., St. John, N. B. Canada.

Ashley, Mrs. M. C., Middletown, N. Y.

Ashley, Rhea E., Middletown, N. Y.

Ashley, Miss Reta L., Middletown, N. Y.

Atherton, Mr. H. H., Trustee, Danvers Insane Hospital, Lynn, Mass.

Bancroft, Mrs. Charles P., Concord, N. H.

Beutler, Mrs. W. F., Asylum for Chronic Insane, Wauwatosa, Wis.

Briddle, T. C., M. D., Superintendent Topeka State Hospital, Topeka, Kan.

Brunk, O. C., M. D., Superintendent, Eastern State Hospital, Williamsburg, Va.

Bryce, Miss, Montreal, Canada.

Burgess, Miss, Montreal, Canada.

Burgess, Miss, Montreal, Canada.

Chapin, Charles W., M. D., Junior Physician, Manhattan State Hospital, Ward's Island, N. Y.

Conover, Allan D., M. D., Member Board of Control, State Charitable and Penal Institution, Madison, Wisconsin.

Crumbaker, Mrs. W. P., Independence, Iowa.

Crumbaker, J. B., Independence, Iowa.



De Jamette, J. S., M. D., Superintendent, Western State Hospital, Staunton, Va.

Drewry, Mrs. W. F., Petersburg, Va.

Elliott, Mrs. R. M., Willard State Hospital, Willard, N. Y.

Elliott, Sherman G., Member of Board of Control, State Charitable Institutions, Topeka, Kans.

Fairbanks, Mrs. James P., Holles St., Halifax, N. S., Canada.

French, Mrs. Edw., Medfield Insane Asylum, Harding, Mass.

French, Miss Anita, Harding, Mass.

Gundry, Lewis H., M. D., Superintendent, Relay Sanitarium, Relay, Baltimore, Md.

Guth, Mrs. Morris S., State Hospital, Warren, Pa.

Hopkinson, Mr. S. W., Trustee, Danvers Insane Asylum, Bradford, Mass.

Horton, Elizabeth H., Agent Sub-Committee on After-Care of the Insane, State Charities Aid Association, 105 East 22d St., New York City.

Hutchings, Mrs. R. H., Ogdensburg, N. Y.

Kinnicutt, Mrs. Francis P., Member of the Board of Managers of the Manhattan State Hospital, 39 East 35th St., New York City.

Lawlor, Mrs. D., Nova Scotia Hospital, Halifax, Nova Scotia, Canada.

Louden, Mr. William T., Proprietor Knickerbocker Hall, Private Sanitarium for Mental Diseases, Amityville, L. I., N. Y.

Potter, Marion C., M. D., Woman Assistant, Staff of Rochester City Hospital, Rochester, N. Y.

Priddy, A. S., Superintendent, South Western State Hospital, Marion, Va.

Redwine, Mrs. J. S., Lexington, Ky.

Scribner, Mrs. E. V., Worcester Insane Asylum, Worcester, Mass.

Shattuck, Chas. S., Trustee, Northampton State Hospital, Hatfield, Mass.

Sherman, Adin, M. D., First Assistant Physician, Northern State Hospital for the Insane, Winnebago, Wis.

Woodman, Mrs. R. C., Middletown, N. Y.

THE PRESIDENT.—Gentlemen, the Committee of Arrangements desires that a very important announcement should be made. It is that the members who contemplate going down to Jamestown should call at the earliest convenience at the office of the steamboat company, Colorado Building, 14th and G streets, and make specific arrangements regarding staterooms, etc., so that there will be no confusion on starting out. A large part of the boat has been reserved for this Association, but the rooms have not been assigned, so those who desire to get accommodations should arrange at once for their staterooms.

DR. BANCROFT, in the Chair:

Members of the Association, it becomes my pleasure to present to you Dr. Charles G. Hill, our President, who will deliver the presidential address. (Applause.)

The President read his address, which was greeted with much applause.

DR. BURGESS.—Mr. Chairman, ordinarily speaking, I am strongly opposed to proposing a vote of thanks to any officer or member of the Association who simply does his duty. It is the duty of the President to present an annual address, and we naturally expect him to give us his very best. But there are occasions on which this rule, like custom, is better honored in the breach than the observance, and I think this is one of them. I therefore have no hesitation whatever in proposing a vote of thanks from this Association to Dr. Hill for the extremely interesting and very practical address which he has given to us this morning.

DR. BANCROFT, in the Chair.—Gentlemen, you have heard the comments of Dr. Burgess. I am sure they will appeal to you all. Have they been seconded?

DR. BURR.—Mr. Chairman, in seconding the motion by Dr. Burgess, I would make the amendment, with his consent, that the recommendations contained in the President's address be referred to the Council.

DR. BURGESS.—I heartily concur in the amendment.

DR. BANCROFT, in the Chair.—Dr. Burgess' motion as amended by Dr. Burr and seconded, is before you. What is the pleasure of the Association?

Dr. Burgess' motion as amended was carried unanimously.  
On motion, the meeting adjourned.

WEDNESDAY, MAY 8, 10.00 A. M.

The meeting was called to order by the President.

THE PRESIDENT.—The first in order is the report of the Council.

DR. PILGRIM.—There has been no meeting of the Council since our last session, and there is nothing to report.

THE PRESIDENT.—The Council, having no special report, the next in order is the election of members. The list was read yesterday of those who were duly proposed and have complied with all the requirements of the constitution. You have had the list distributed among you. The constitution requires that these members be elected by ballot. If there is no objection and no member objects to any person proposed, it will be in order to have the Secretary cast the ballot to conform with the law.

DR. BURGESS.—I move that the Secretary be empowered to cast the ballot of the Association for the list of physicians already named in yesterday's report.

Which motion was duly seconded.

THE PRESIDENT.—You have heard the motion of Dr. Burgess, that the Secretary be empowered to cast the ballot of the Association, electing these physicians as members. The Secretary will read the names. (This list is given in the first report of the Council.)

Dr. Burgess' motion unanimously prevailed.

THE PRESIDENT.—The Secretary announces that the ballot has been cast and the candidates elected. The names you have heard read will be placed on the rolls of the Association.

The next in order is unfinished business. Under this comes the amendment to the constitution proposed by Dr. Clarke last year, which the Secretary will please read.

DR. PILGRIM.—The proposed amendment is as follows:

Article 4, third line: Substitute the word "three" for "two" before the word "auditors."

Article 8, second paragraph, ninth line: Insert after the word "elected," "One auditor shall be elected for one year, one for two years, and one for three years."

THE PRESIDENT.—Gentlemen, this amendment has been duly proposed and has laid over one year as required by the constitution, and is now before you for action. What is your pleasure?

DR. BURGESS.—Personally I am of the opinion that the amendment should be made, for this reason: Heretofore, the Auditors have been changed every year. Under such conditions a man got a little knowledge of the books and the work to be done. He

was then changed and a new man who knew nothing about it had to do the work the next year. If the proposed amendment prevails, two men will be carried over yearly who will have some knowledge of the books. I think the resolution an excellent one.

DR. MABON.—I move its adoption.

Which motion was duly seconded and unanimously prevailed.

THE PRESIDENT.—The amendment has been adopted as read, and will be made a part of our constitution.

We have next the report of the Committee appointed at our last meeting on training schools in State hospitals.

DR. TUTTLE.—Mr. President, members of the Association: I will not take your time to read this report. Its nature is such that it would scarcely be worth while. The Committee held a meeting in New York, in March, and came to a substantial agreement as to what the report should be. It has been written out on those lines and, because of its nature, it was thought better to print it for the members to read, if they wish to, before accepting or rejecting it. I simply formally present the report to the Association.

DR. BURR.—I move that the report be accepted and adopted, and that the Committee which has undertaken this work and carried it on so successfully be thanked for its careful and painstaking labor.

Which motion was duly seconded and unanimously prevailed.

DR. FRENCH.—Mr. President, I move that the Secretary of the Association be instructed to have it printed and see that every member of the Association is furnished with a copy. Carried.

DR. MABON.—Mr. President, I would like to ask if publishing the report in the proceedings would not save some expense to the Association? Every member receives a copy of the Transactions.

THE PRESIDENT.—If it is published in the proceedings, it would carry out the spirit of the motion. The Secretary will use his discretion about how it shall be done. (See page 119 for report.)

THE PRESIDENT.—The next is the report of the Nominating Committee.

DR. BURGESS.—The Nominating Committee begs to report as follows:

For President, Dr. Charles P. Bancroft, of New Hampshire.

For Vice-President, Dr. Arthur F. Kilbourne, of Minnesota.

For Secretary and Treasurer, Dr. Charles W. Pilgrim, of New York.

For Councilors: Dr. W. H. Hancker, of Delaware; Dr. Charles G. Wagner, of New York; Dr. Byron M. Caples, of Wisconsin; Dr. Henry W. Coe, of Oregon.

For Auditors: For one year, Dr. J. Percy Wade, of Maryland. For two years, Dr. James V. Anglin, of New Brunswick. For three years, Dr. Richard H. Hutchings, of New York.

(Signed) T. J. W. BURGESS,  
B. D. EVANS,  
M. J. WHITE.

THE PRESIDENT.—You have heard the report of the Nominating Committee. Following it is the election of officers.

DR. BRUSH.—I move that the Secretary be instructed to cast the ballot of the Association, electing these gentlemen as our officers for the ensuing year. Carried.

THE PRESIDENT.—The Secretary announces that the ballot has been cast. These gentlemen will constitute the officers of the Association for the ensuing year.

The next is the report of the Auditors.

DR. WADE.—Mr. President, owing to the delay occasioned by the non-report of the editor of the AMERICAN JOURNAL OF INSANITY yesterday, the Auditing Committee beg leave to postpone their report until to-morrow.

THE PRESIDENT.—If there is no objection, the request of the Auditing Committee will be granted.

We will now receive the report of the editors of the AMERICAN JOURNAL OF INSANITY. Is Dr. Brush ready to make the report?

*To the Members of the American Medico-Psychological Association:*

On behalf of my associates on the editorial board I respectfully present the following report relative to the AMERICAN JOURNAL OF INSANITY, the official organ of this Association:

The members of the board, and particularly the managing editor, have



felt the loss, occasioned by his absence from the country on a well-earned vacation, of the advice and assistance of the senior editor, Dr. Henry M. Hurd.

Volume sixty-three of the JOURNAL, closing with the number for April, 1907, contains a trifle over six hundred pages. Over thirty original articles have been published, in addition to annual addresses delivered at the last annual meeting, and the proceedings of that meeting. In addition a large number of abstracts from home and foreign journals, book reviews, correspondence, etc., have appeared in the various numbers issued.

At this point I may be permitted to touch upon one department of the JOURNAL, which should, I feel, receive more general support than it does. I refer to the Half-Yearly Summary.

In this department it is aimed to present semi-annually brief items of interest concerning the various institutions for the insane in this country and Canada—keeping our readers in this way in touch with what is going on in other hospitals—with the changes and improvements being brought about by their fellow members of the Association. New plans for buildings, or changes looking to the better adaptation of those now in use for the care of patients—new features in clinical or laboratory work, methods of training nurses—are all points upon which we desire for the JOURNAL, and through it for our readers, items of news.

Many readers have expressed great satisfaction with this department of the JOURNAL and yet we are sure it could, by a little effort on the part of many who now send us nothing, be made more satisfactory and of greater value.

The department of clinical psychiatry also deserves support, and the presentation of well worked out clinical studies of individual cases or groups of cases is urged.

In the report which was presented last year the suggestion was made that the editorial board be authorized to issue six, rather than four numbers a year. It is believed that material to fill six numbers annually can be had and it is evident that the increase in frequency of the JOURNAL's appearance will tend to keep our readers in more intimate and earlier touch with the literature of our profession.

The finances of the JOURNAL are in a comfortable condition; the receipts from both subscriptions and from advertisements are materially greater than last year, and the expenses, although covering payment for five numbers as compared with four numbers included in the last financial statement, is but a trifle more than last year. The balance on hand is not large, but I am informed that there are several unpaid subscriptions and other outstanding accounts.

The JOURNAL, as has been intimated before in reports from the editorial board, deserves, as it is your property, better support than some of you give it. Every member should subscribe and pay for it, whether the institution with which he is connected takes it or not, and indeed, he should make it a part of his duty to see that the institution takes it also.

It is quite possible, with an increased subscription list, and every member should make himself a subscription agent, and a small annual contribution from our treasury, which is gratifyingly full, to reduce the price of the JOURNAL to members of the Association; but this should not be undertaken until all the members take the JOURNAL as well as the library of every hospital for the insane.

The expense of printing and editing the JOURNAL would be diminished in a degree if contributors would send their manuscript in the form they wish it printed. Proof is not infrequently returned with considerable parts of the matter rewritten. Changes of this kind in proof sheets are more expensive than the original type setting, and then a word more—please read proof carefully and send back promptly. The delay of two or three pages of proof after a number is made up causes vexatious delay and sometimes added expense.

Your editorial board is at all times ready, indeed anxious, to receive and consider suggestions looking to the improvement of the JOURNAL.

Respectfully submitted,

EDWARD N. BRUSH,

*Managing Editor.*

THE PRESIDENT.—Gentlemen, you have heard the report from the editors of the AMERICAN JOURNAL OF INSANITY. The report is before you. If there is no objection, the report stands accepted and adopted as read.

Dr. White wishes to give us some information in regard to the proposed visit to the Government Hospital.

DR. WHITE.—I have arranged with the street car company to furnish two special cars to take those who want to go to the hospital to-day. They will leave from the corner of F and 11th streets. I could not have them leave from the front of the hotel, because there is no switch on which to side-track them. You can walk to 11th street and the cars will leave there at half past two. It is about twenty-five minutes ride. You will have to change cars at the foot of the hill as the current will not carry the special cars up.

THE PRESIDENT.—Ladies and gentlemen, we always on these occasions reserve the best until the last. I take great pleasure in introducing to you a gentleman who needs no introduction to any American audience. He is probably better known and more extensively read than any gentleman in America. The Reverend Dr. Buckley will now address us. (Applause.)

Rev. James M. Buckley, D.D., LL.D, then delivered the Annual Address, entitled, "Shakespeare's Lunatics," which was greeted with much applause.

DR. BURR.—Dr. Buckley has spoken of the danger of a "tie" during a medical consultation. I dare say that in the vote upon the motion, which it is my privilege to make, there will be no tie; there will be no division. The sentiment of this audience, I am sure, will be unanimous in extending a cordial vote of thanks to the learned Dr. Buckley, our distinguished honorary member, for this delightful address. I move a rising vote of thanks to the doctor.

Carried unanimously.

DR. BUCKLEY.—Gentlemen, I simply say that, like St. Peter, "Such as I have, give I unto thee."

THE PRESIDENT.—We have all enjoyed the very delightful and very complete address. Coming, as it does, on an occasion of this kind, when almost every speaker, and every paper read, refers to Shakespeare's maniacs, and coming from such a Shakespearean scholar as Dr. Buckley, we would like to have him dwell a little longer on some special lines he has brought out. Thank you, doctor, very much.

The next on the programme is the discussion on the "After-Care of the Insane," which will be opened by Dr. Mabon.

DR. MABON.—Mr. President, Ladies and Gentlemen: I will endeavor to be as brief in the presentation of this subject as possible, but a large part will have to be left to the printing.

The following papers were then read: "After-Care of the Insane," by Dr. William Mabon, New York City; and Dr. Robert M. Elliott, Willard, N. Y.

THE PRESIDENT.—I regret very much that Hon. Homer Folks, Secretary of the State Charities Aid Association of New York, is not here, but we have to represent him Miss E. H. Horton, the special agent of that Association in New York City, who no doubt will be able to give us very valuable information on this subject.

Dr. Mabon's and Dr. Elliott's papers were discussed by Miss Horton, Dr. Mabon, Dr. Stedman, and Dr. Wentworth.

DR. MABON.—I wish to announce that the State Charities Aid Association of New York has contributed one hundred reports, showing the plan of organization and the work of the Association. The reports are here for those who may be interested.

Adjourned.

WEDNESDAY EVENING, MAY 8, 8.30 P. M.

The meeting was called to order by the Secretary, who called Dr. Burgess to the chair, pending the arrival of the President, who had been unexpectedly detained.

The following papers were read: "Alcohol as an Etiological Factor in Mental Disease," by Dr. G. H. Kirby, New York, N. Y.; Dr. Harry A. Cotton, Hathorne, Mass.; and Dr. C. W. Chapin, New York, N. Y. "The Polyneuritic Psychosis or Korsakoff's Disease," by Charles K. Mills, M.D.; and A. Reginald Allen, M.D., Philadelphia, Pa.; read by Dr. Allen. "Arterio-Sclerosis in Mental Disease," clinical paper by Dr. C. Macfie Campbell, New York, N. Y.; anatomical paper by Dr. Glanville Y. Rusk, New York, N. Y.

The papers of the evening were discussed by Dr. Meyer.

THE PRESIDENT.—There will be a meeting of the Council immediately after the adjournment of this meeting in Room 130, at which the editors of the AMERICAN JOURNAL OF INSANITY will be present.

Adjourned.

THURSDAY, MAY 9, 10.00 A. M.

THE PRESIDENT.—The Association will please come to order. The Secretary will read the report of the Council.

REPORT OF COUNCIL TO ASSOCIATION, MAY 9, 1907.

The Council recommends that the question of publishing the JOURNAL OF INSANITY bi-monthly be referred to the editorial board of the JOURNAL, together with the President-elect and Secretary, with power for final action.

The Council has appropriated the sum of two hundred dollars to be awarded as a prize for an essay on original work, under conditions to be in future prescribed by the President, Secretary, and Programme Committee.

It is recommended that the dues of the Association remain as at present, namely, five dollars for active membership and two dollars for associate membership.

The Council recommends the appropriation of two hundred dollars, or as much thereof as may be needed, to be used in the discretion of the editorial board of the *AMERICAN JOURNAL OF INSANITY*.

The Council has authorized the Secretary to publish the Transactions of this meeting.

The Council recommends for active membership the following named associate member:

Dr. Isador H. Coriat, Boston, Mass.

The Council recommends for associate membership, the following named physicians:

Dr. Samuel W. Hamilton, New York, N. Y.; Dr. J. M. Whitaker, Milledgeville, Ga.; Dr. Samuel T. Orton, Columbus, O.; Dr. Charles B. Rogers, Cincinnati, O.; Dr. Clyde R. McKinniss, Norristown, Pa.

The Council has informally considered the applications of the following named physicians for active membership. In accordance with the constitution, final consideration will be deferred until next year:

Dr. Graeme M. Hammond, New York, N. Y.; Dr. John J. Twohey, Buffalo, N. Y.; Dr. Lewis H. Gundry, Relay, Md.; Dr. Thomas Coke Biddle, Topeka, Kans.; Dr. A. S. Priddy, Marion, Va.; Dr. William Pritchard, Gallopolis, Ohio.

The Council recommends that the President-elect be authorized to appoint a Programme Committee, whose duty it shall be to arrange for the programme of the next annual meeting.

On motion, the report of the Council was accepted and adopted.

THE PRESIDENT.—Those physicians who have been recommended by the Council for membership in the Association will be voted upon at the session to-morrow morning.

The next is the report of the Auditing Committee.

The following report was read by Dr. Wade, Chairman of the Committee:

WASHINGTON, D. C., MAY 9, 1907.

*To the American Medico-Psychological Association:*

Your Auditing Committee respectfully reports that it has examined the books of the Treasurer, compared the vouchers with the checks drawn



and paid, and footed the totals, and finds his statement submitted to the Association correct, namely, a balance of \$1,405.18 in the Emigrant Industrial Savings Bank, and a balance of \$836.57 in the New York Produce Exchange Bank, including \$12.00 banked since the book was balanced, a total balance of \$2,241.75.

We have also audited the report of the editors of the AMERICAN JOURNAL OF INSANITY, compared the vouchers with the payments made, and find the statement submitted to the Association correct, namely, a balance in cash now on hand of \$123.09.

Respectfully submitted,

(Signed) J. PERCY WADE,  
*Chairman.*

On motion, the report of the Auditing Committee was accepted and adopted.

THE PRESIDENT.—First on the programme, we have the paper of Dr. Stedman, "Some Remarks on Public Lectures on Insanity."

DR. BRUSH.—It seems to me that the important suggestions made by Dr. Stedman should not be allowed to pass without some action on the part of the Association. It occurred to me while he was reading that I had noticed at our annual meetings on more than one occasion persons who were not connected with the profession who seemed more or less interested, sometimes from morbid curiosity, doubtless, but occasionally from genuine interest in the subjects treated.

We might inaugurate at our meetings a series of popular lectures on insanity, one each year. I move, therefore, that Dr. Stedman be appointed Chairman of a committee to take this matter into consideration—not committing the Association to the suggestions by any means—but simply to take it into consideration and report at the next meeting. The committee which I suggest might confer with the Committee on Programme, and as a tentative measure, if the suggestion meets the approval of the Committee, a lecture might be arranged for at our next annual meeting, to which the public could be invited.

Adopted.

THE PRESIDENT.—I will appoint as such committee, Dr. Stedman, Chairman, as provided in the motion, Dr. Brush and Dr. Arthur Hurd.

Dr. Stedman's paper was discussed by Dr. Dewey, Dr. Bancroft, Dr. A. Meyer, Dr. Burgess, Dr. Busey, Dr. Wentworth, Dr. Mabon, and by Dr. Stedman in closing.

DR. BURGESS.—Mr. President, with your permission, I would like to interrupt the course of proceedings long enough to introduce a resolution. Since coming to this meeting, I have learned with deepest regret, that one of our old and most valued members is very ill. It is doubtful if he will ever again be with us. I refer to Dr. P. L. Murphy, of North Carolina.

I have been connected with this Association a great many years. My first meeting goes back to 1870, I think, and during that time I have never found a better, more thoroughly upright member, to my mind, than Dr. Murphy. In fact, if we should be unfortunate enough to lose him, which I hope we will not, it may truthfully be said, we shall not look upon his like again. By his strength of character and honesty of purpose he has been a tower of strength in this Association and in the care of the insane of North Carolina. With your permission, I would ask that the Secretary be instructed to send a telegram, expressing our sympathy with him, and our earnest hope that he will be again permitted to be with us.

THE PRESIDENT.—I am sure that this meets with the thorough concurrence of all of us.

Dr. Burgess' resolution was duly seconded and unanimously adopted.

The following telegram was sent:

WASHINGTON, D. C., MAY 9, 1907.

DR. P. L. MURPHY, Morganton, N. C.

On motion of Dr. Burgess, unanimously resolved that Association extends sympathy and best wishes for speedy recovery.

(Signed) CHARLES G. HILL, *President*,  
CHARLES W. PILGRIM, *Secretary*.

Papers on "Reception Hospitals, Psychopathic Wards, and Psychopathic Hospitals," were read by the following named physicians: Adolph Meyer, M.D., Ward's Island, New York, N. Y.; Albert M. Barrett, M.D., Ann Arbor, Mich.; M. S. Gregory, M.D., New York, N. Y.; Charles P. Bancroft, M.D., Concord, N. H.

The symposium on reception hospitals, etc., was discussed by Dr. Burgess, Dr. D. C. Meyers, Dr. Coe, Dr. Burr, Dr. Stockton, Dr. Crumbacker, Dr. A. Meyer, and Dr. Barrett.

The following papers were read:

"Metabolism in the Insane, with Special Reference to General Paralysis," by Otto Folin, M. D., Waverley, Mass., which was discussed by Dr. A. Meyer.

"Opsonins and the Employment of Therapeutic Vaccines in the Treatment of General Paralysis," by John D. O'Brien, M.D., Massillon, O. Discussed by the President, Dr. Burr and Dr. Coe.

"Megalomania in General Paralysis," by Joseph Clement Clark, M.D., Sykesville, Md.

End of morning session.

#### AFTERNOON SESSION.

The meeting was called to order by the President.

The following papers were read:

"The Melancholia-Mania Group of Psychoses," by Edward Cowles, M.D., Boston, Mass. (By title.)

"Some Observations in General Paralysis and Cerebral Syphilis," by C. B. Dunlap, M.D., New York, N. Y. (By title.)

"Relationship between Aphasia and Mental Diseases," by William McDonald, M.D., Providence, R. I. Discussed by Dr. Burgess.

"The Forms of Dementia Praecox," by William Rush Dunton, M.D., Towson, Md.

"Prognosis in Cases of Mental Disease, Showing the Feeling of Unreality," by F. H. Packard, M. D., Waverley, Mass.

THE PRESIDENT.—This closes the programme for to-day. I would like to ask all who have not already registered to be kind enough to do so before they leave us this afternoon. I do not believe our registration is quite complete.

The meeting will stand adjourned until ten o'clock to-morrow morning at the Inside Inn, Jamestown Exposition.

End of afternoon session.

FRIDAY, MAY 10, 10.00 A. M.—INSIDE INN, JAMESTOWN  
EXPOSITION.

THE PRESIDENT.—The Association will come to order. I take great pleasure in introducing Mr. Robert H. Sexton, Commissioner of Special Events of the Jamestown Exposition.

MR. SEXTON:

*Mr. President, Ladies and Gentlemen:*

I am here representing Mr. Tucker, President, and Mr. Lanson, both of whom desired to be with you this morning. Mr. Tucker was called last night to Washington and I have just received a telegram from Mr. Lanson that he is unable to be present, so I am here to extend the best wishes of the Exposition and to hope that you will have a good time.

We have arranged for reserved seats for all the members of your Association at the organ recital, which will be given at four o'clock this afternoon by Mr. Clarence Eddy, a very noted artist, as you know. The recital will be held in the auditorium of the Administration Building, and it is hoped that all will arrange to attend.

At eleven o'clock this morning, we are to have a carrier pigeon contest just opposite the grand stand on Lee's Parade. At that hour two thousand homing pigeons from Washington will be released. I think it will be quite interesting.

I hope you will all look upon our incompleated Exposition with a charitable eye. We have a great deal yet to do, yet I am sure you will find much of interest in the various exhibits already in place. I thank you all for your courtesy. (Applause.)

THE PRESIDENT.—The first order of business, gentlemen, is the report of the Council. The Secretary will make the report.

DR. PILGRIM.—I am very sorry not to be able to make the detailed report of the Council, but the grip containing the Secretary's notes has been lost somewhere in transit. The first thing in order is voting upon the names proposed to the Association yesterday for membership.

(This list is given in the report of the Council May 9.)

On motion, the Secretary was instructed to cast the ballot of the Association for these gentlemen.

THE PRESIDENT.—The Secretary announces that the ballot has been cast, and I, therefore, declare these gentlemen members of the Association, upon their qualifying in accordance with the constitution.

DR. PILGRIM.—The Council has unanimously voted for Cincinnati, O., as the next place of meeting, the time to be arranged by the President-elect and the local Committee of Arrangements. This completes the report of the Council.

On motion, the report was accepted and adopted.

THE PRESIDENT.—The Chair appoints the following named gentlemen as the Committee on Resolutions: Dr. Burgess, Dr. Work, and Dr. Mabon.

Dr. Evans.—Mr. President, in view of the small number here, and some other invitations before us, I move that we adjourn to meet at 2.30 this afternoon, and then take up such business matters as may come before the Association.

Dr. Evans' motion was duly seconded and carried.

THE PRESIDENT.—We now stand adjourned until 2.30 this afternoon.

#### AFTERNOON SESSION.

THE PRESIDENT.—Having finished the routine business at this morning's session, we will proceed now to the reading of the papers.

The following papers were read:

"Hysteria, a Much Abused Neurosis," by C. Eugene Riggs, M.D., St. Paul, Minn. (By title.)

"The Manifestations of Hysteria as Insanity," by Robert C. Woodman, M.D., Middletown, N. Y.

"Hysteria in the Male," by Ernest L. Bullard, M.D., Milwaukee, Wis.

"The Rest Treatment as Applied in Mental Disease," by Frank P. Norbury, M.D., Jacksonville, Ill. (By title.)

"The Treatment of Excitements by Continuous Baths," by Samuel W. Hamilton, M. D., New York, N. Y.

"The Care of Imbeciles in Hospitals for the Insane and Elsewhere," by J. M. Keniston, M. D., Middletown, Conn. (By title.)

"Our Duty to the Chronic Insane," by J. T. W. Rowe, M.D., New York, N. Y. Discussed by Dr. Burgess.

"Toxaemia as a Factor in the Etiology, Prognosis and Treatment of Insanity," by E. H. Pomeroy, M.D., Monterey, Tenn.

"Simplified Spelling and Some Medico-Psychologic Terms," by William C. Krauss, M.D., Buffalo, N. Y.



"Borderland Insanity," by John Punton, M.D., Kansas City, Mo. (By title.)

"Recidivation in Mental Disease," by George Villeneuve, M.D., Montreal, Que. (By title.)

"A Few Fallacies in the Treatment of Epilepsy by Drugs," by A. L. Skoog, M.D., Pueblo, Colo. (By title.)

Papers on "Shorter Hours for Attendants and Nurses," were read by the following: Alfred I. Noble, M.D., Kalamazoo, Mich.; Arthur V. Goss, M.D., Taunton, Mass. (by title); Charles G. Wagner, M.D., Binghamton, N. Y. (by title).

These papers were discussed by Dr. Bancroft, Dr. Gorst, Dr. Hurd, Dr. Pilgrim, Dr. Richardson, and Dr. Noble in closing.

THE PRESIDENT.—We now come to the memorial notices. How shall these be read?

DR. BURGESS.—Mr. President, owing to the lateness of the hour and the slimness of the attendance, I think myself it better be by title. I deeply regret to have to make such a suggestion, because I have always maintained that the memorial notices should take precedence over everything else, but under the circumstances I think it is the wisest course to pursue. This is the only association of scientific men that disgraces itself by putting memorial notices at the end of the last day's business. In every other association they precede every other thing, and they should do so as a just tribute to men we have known and esteemed, and whose loss we deplore. To my mind, our practice is wrong—utterly wrong, and I sincerely trust it will henceforth be changed.

THE PRESIDENT.—If there is no objection, the memorial notices will be read by title.

The following memorial notices were read by title:

Dr. Alexander E. Macdonald, by Arthur W. Hurd, M.D.; Dr. Joseph Manning, Cleveland, by Theodore H. Kellog, M.D.; Dr. R. J. Preston, by William F. Drewry, M.D.

THE PRESIDENT.—We will now receive the report of the Committee on Resolutions.

DR. BURGESS.—The Committee on Resolutions begs to report as follows: That the thanks of this Association are justly due and hereby tendered to the Committee of Arrangements for the care taken of our interests; to Dr. William L. Russell and the

Programme Committee for the excellent and instructive series of papers provided for our benefit; to Dr. William A. White for the delightful afternoon spent at St. Elizabeth; to the manager of the New Willard Hotel for his kindness in furnishing us with an assembly hall; and to the management of the Jamestown Exposition for the various courtesies extended to us.

(Signed) T. J. W. BURGESS,  
WM. MABON,  
HUBERT WORK.

On motion, the report was accepted and adopted.

THE PRESIDENT.—At the request of the President-elect, I announce the following as the Committee on Arrangements for the next meeting:

Dr. F. W. Harmon.

Dr. F. W. Langdon, and others whom they shall select to cooperate with them.

Also with the suggestion and cooperation of the incoming President, I announce the following Programme Committee:

Dr. Owen Copp, Boston, Mass., Chairman.

Dr. Arthur W. Hurd, Buffalo, N. Y.

Dr. William F. Drewry, Petersburg, Va.

Dr. H. A. Tomlinson, St. Peter, Minn.

Dr. T. J. W. Burgess, Montreal, Que.

This closes the order of exercises of this meeting. Will Dr. Coe and Dr. Burgess conduct the President-elect to the chair?

DR. BURGESS.—Mr. President, Ladies and Gentlemen: I have great pleasure in presenting to you our new President, Dr. Bancroft. He is so long and so well known to all of you that it is hardly necessary to say anything, but one thing I can assure you which is, that he will certainly reflect lustre upon the chair he has been elected to fill and of which he has now taken possession.

THE PRESIDENT.—Gentlemen, before transferring my insignia of office to my most worthy and excellent successor, I want to tender my thanks to the various committees who have contributed so much, in fact all, to the success of this meeting, and to express my high appreciation of the courtesy and consideration of the

members during my brief term of office. I take great pleasure in transferring my office to the President-elect Dr. Bancroft. (Applause.)

THE PRESIDENT-ELECT:

*Mr. President, Ladies and Gentlemen:* I wish to express to the Association my profound appreciation of the great honor you have conferred upon me. No member of this society can receive this appointment without feeling that it is one of the greatest compliments that can fall to him in his professional life.

It so happens that this spring marks the twenty-fifth year of my service as an active member of the American Medico-Psychological Association, and it is especially gratifying to me that the official honor you have conferred upon me comes at this particular milestone of my service. I wish to thank you all most heartily for the confidence you have reposed in me. (Applause.)

I now declare this meeting adjourned, to meet next year in Cincinnati, O., at a time to be announced later by the Secretary.

## THE NEW YORK PSYCHIATRICAL SOCIETY.

STATED MEETING, MARCH 6, 1907.

Allan McLane Hamilton, M. D., in the Chair.

Dr. August Hoch read the paper of the evening, the subject being, "The Psychogenetic Factors in Some Paranoiac Conditions, with Suggestions for Prophylaxis and Treatment."

Dr. Hoch pointed out that among the paranoiac states there were cases, and that they probably represented a large proportion, in which the psychogenesis could be clearly traced, when the facts of the cases were really accessible. The theory of the development of paranoiac states Dr. Hoch summarized briefly as follows, stating that besides basing his ideas upon facts of his own studies, he had been influenced by the work of Adolf Meyer, Freud, Bleuler, and Jung:

Every person has certain points on which he is especially sensitive. He has ideas or complexes of ideas which are associated with very strong feelings. These complexes refer either to personal defects, shortcomings, limitations, or to feelings of guilt, remorse, shame; on the other hand to certain longings and desires. We may, therefore, generally speaking, say that they belong either to the realm of self-assertion or to the sexual sphere, in the broadest sense of the term. Now most people are able to get square with such things, partly because their nature is such that these feelings never reach anything like a great intensity, or partly because they have a healthy way of dealing with these matters.

Other people do *not* get square with such difficulties. They do not acquire balancing, healthy habits, such as a healthy turning away from one's difficulties to outside interests, or a habit of unburdening or a certain aggressiveness and the like. While then such undercurrents, as we may call these complexes, when they are of any intensity have themselves a tendency to set narrower and narrower limits to the interest and to create a certain fascination, they often become a menace to the sanity of mind,

also because they are not balanced sufficiently by sound mental tendencies. In this way there develops a growing disharmony which gradually, or sometimes under the influence of acute causes, physical or mental, may suddenly lead to an unbalancing of the mind, when, finally the undercurrents break through to the surface.

But the mind, even in the cases in which the undercurrents are not handled properly, makes certain miscarried attempts at re-adjustment. Thus, the feelings of defect and the longings do not come to the surface as such, but are transformed; the former give rise to a general suspiciousness and delusions of persecution, probably for the same reason that we are inclined to blame everyone else except ourselves, when anything which we do goes wrong; the latter give rise to ideas that the innermost longings are fulfilled. And there are still other forms of such miscarried adjustments.

We see then that we have two things, the undercurrents and the abnormal manner of dealing with these undercurrents, upon which we should lay stress as important in the causation of these paranoiac states. To a certain extent this division is of course artificial and the two principles often enough overlap greatly. Then again, it is difficult often to find a correct or definite formula for that which we have called abnormal mental habits, or difficult to pick out from among the complex fabric of mental reactions, those which are disastrous or estimate the dangers of certain combinations, or to correctly gauge the value of saving traits. Naturally it will often be a combination of traits rather than single traits which we have to consider and while we speak of some reactions as dangerous mental habits they may exist in certain combinations in which they are sufficiently safe-guarded.

It is also very evident that other causes than an unhealthy manner of dealing with the undercurrents may enter into the causal constellation as well—such as influences which increase the strength of the undercurrents or influences, which, in other ways than those indicated, lessen the resistance, such as the action of alcohol, the menopause, and the like. The principles were demonstrated by means of careful analysis of four cases and certain indications for treatment were discussed.



## DISCUSSION.

Dr. H. R. Stedman, of Boston, was inclined to lay more stress on the influence of heredity in affecting the progress of genuine paranoia than did Dr. Hoch. Numbers of cases of the disorder were seen in patients who had been sensibly brought up and who were treated affectionately by their families, nothing being left undone to make their surroundings congenial and their lives smooth and happy, yet in spite of it all they developed paranoia. Little could be hoped for, he believed, in the way of materially modifying the psychogenetic factors so as to make any real impression on these cases of typical paranoia, a disease arising on a defective constitutional basis and gradually and logically developing into an inflexible system of delusional thought and conduct.

He thought, however, that after the disease had developed when family, friends, and a normal environment had proved powerless to influence the disease and the patient was sent to the hospital, his condition was more susceptible of improvement than is generally thought to be possible. He had not infrequently found the paranoiac to be rendered decidedly more manageable and his life made far more comfortable by regular friendly and explanatory talks, answering his questions, making the endeavor to set him right, and satisfying such of his minor demands as were not wholly unreasonable. The fact that many of them are hopeless and cannot be reached at all by such means—in fact only become worse in consequence—accounted, he thought, for the tendency that exists to pay them as a class little or no systematic attention, such as Dr. Hoch adopts with his cases. Dr. Stedman questioned if the reader had not chiefly in mind the paranoid state rather than the paranoiac, that symptomatic, persecutory condition so often found in dementia precox. If so, he was wholly in accord with his view that much might be done in the way of prophylaxis. Dr. Hoch's masterly analysis of the psychogenetic conditions in his cases showed this plainly and he believed it to be due to the fact that the morbid direction of their thought had become less impaired than in the true paranoiac. Dr. Stedman felt the same confidence that he had expressed at length several years ago, that not a few cases of this kind, when recognized early by the psychiatrist while yet the patient is comparatively comfortable, may be saved from an attack by well-directed medical oversight and

guidance and regulation of his habits and surroundings. He attached little importance to the menopause as a special causative factor in insanity, as individual experience and statistics seem to show quite conclusively that paranoia develops to the same extent in both sexes during the period of life in which the menopause occurs.

Dr. Charles L. Dana had been interested in Dr. Hoch's analysis, which was instructive as showing that in a certain group of cases of paranoia conditions might be improved by careful therapeutic effort. He had not been in a position to carry out this method of treatment, which could not be very successfully employed by those not connected with institutions. He agreed with Dr. Stedman as to the importance of hereditary taint in all these cases, and that a goodly proportion of paranoiacs develop in spite of careful bringing up. Few of these patients could be influenced unless they were taken in hand very early. He had been much interested in two or three cases of paranoia which illustrated that the undercurrent does not always break through in a way that particularly disturbs the mental make-up or general life of the patient. Such a case was a woman, about fifty years of age, now under his care, who was first seen by him when she was forty years old. She was married and the mother of two healthy children. About fifteen years before he first saw her she had developed delusions of a certain kind of persecution—that when she went out on the streets people made remarks about her, trying to annoy her and to injure her. She had these delusions throughout her married life and during her pregnancies. She was a good mother, however, and to most people who knew her she remained a good, kindly woman, about whose mental condition no one had suspicions except her husband, some members of her family, and Dr. Dana. She was probably preserved from a general paranoiac state by the fact that she was able to stay in the house and keep away from sources of irritation. He had had under observation also a man, now forty years old, who had been engaged in business all his life. For fifteen or twenty years this patient had had similar delusions of persecution—that the police and detectives were after him and that attempts were being made to watch him. But this undercurrent delusion never broke through except in one little spot in his brain. One or two of his children developed dementia precox at the age

of sixteen. Such very limited types of paranoia certainly lent themselves to treatment by instruction and by careful selection of environment, which was all essential. As to the general correctness of Dr. Hoch's analysis there could be no question.

Dr. Maurice C. Ashley, of Middletown, N. Y., agreed with Dr. Hoch in the main, but he questioned whether the therapeutic talks with paranoiacs would accomplish very much as a curative measure. In his experience there had been no such beneficial results. He recalled one paranoiac who, for ten years, had believed that he had been giving him poison. At first the patient was inclined to retaliate, he threatened, and made definite efforts to take the life of the doctor's children. The man had some somatic symptoms which he himself attributed to the poison which he thought had been given him. He still has the delusions but no longer attempts to execute his threats.

Another patient, a woman, for eight years had believed that he had been turning an electric current upon her for the purpose of annoying her. Every argument had been used to convince her that this was impossible, but without effect. As the disease progresses the reason of such patients becomes enfeebled and less active, and while they continue to have their delusions they become accustomed to them and cease to react much to them.

Dr. William Hirsch thought that in forming a definite opinion concerning the cases analyzed by Dr. Hoch it must first be determined whether one had to deal with genuine paranoia, or with a paranoiacal state of another disease. Genuine paranoia is always a congenital and not an acquired disease, although the true paranoiacal symptoms often do not manifest themselves during the earlier part of life. But there is always a congenital condition, a constellation of mental factors, which not only predisposes to, but which necessarily develops, at some time of life, such a combination as to produce that mental condition known as paranoia. When such a point in any given case would be reached cannot be determined in advance, but we are, in most cases, able to predict the development of a true paranoia. Various conditions, such as environment, worry, etc., might have something to do with it, at least with a premature manifestation of the condition. He did not believe, however, that in any given case anything could be done to prevent the manifestation of the paranoiacal condition,

even though it were recognized that the development of such a condition existed. This opinion was not based merely on theory. In his practice he had had children brought to him whose parents realized that they were a little peculiar, nothing more, but whom he recognized as abnormal individuals who in later life would become paranoiacs. In such of these cases as he had been able to follow ten or fifteen years he had found that they developed genuine paranoia in spite of all the precautions which had been taken. He had warned the mother not to let the child have any impressions which would stimulate the imagination or fancy of the child, not to let it read any fiction, to guard it against any undue emotions; all this was carried out with the greatest care. But at some time in life, generally after an unusual emotion, such as falling in love, slight business troubles—something which otherwise would be of no importance—would develop a true paranoia. A normal individual, normal from the start, would never develop paranoia. A normal individual might develop melancholia, or some other acute disease, but never paranoia. When he said one must differentiate between types he meant cases in which there was genuine paranoia and those in which there was a paranoiacal state. The paranoiacal state might occur in a great many psychoses. He had seen such a case lately. A man of sixty years of age, a good business man, perfectly normal all his life, suddenly developed a paranoiacal condition; he had delusions and hallucinations, imagined there was a conspiracy against him, that his neighbors tried to kill him, etc. After remaining in this condition for nine months he gradually became demented. He is still living, and is suffering from a condition of general arteriosclerosis. The case could be defined as dementia senilis, but not as paranoia.

Dr. P. C. Knapp, of Boston, thought it a mistake always to regard delusions of persecution, with hallucinations of one form or another, as constituting paranoia, and that we should be guarded in speaking of such conditions as paranoiac states. He agreed entirely with Dr. Hirsch's opinion that true paranoia, while not a congenital condition, is dependent upon a congenital condition, is dependent upon a congenital mal-arrangement, so to speak, of the brain. Tanzi had taken the same position, viz., that, whereas other forms of mental disease might be spoken of



as true diseases, paranoia was not a disease but a morbid congenital state, which, later in life, under the influence of various factors, might develop into typical paranoia with hallucinations and delusions. He thought that the "undercurrent" did not always "break through." In this connection he cited the case of a woman who for years had had a limited type of delusion. She had lived a secluded, narrow life in one of the smaller New England cities; for many years she had been active in the care of her household and family, and in church work; she had been trained in the old New England habit of keen theological discussion and argument, and for many years she had had the very definite idea that she had been excommunicated from the church. In the main the idea had been suppressed, many of her church associates did not know of it, and those who did kept it secret. The idea existed for many years without going on to any real mental disturbance. Cases were not uncommon in which the delusions occupied a limited field in the consciousness and affected but little the conduct. With a true paranoiac, however, he questioned very much the real importance of any emotional stress, or of any psychical ideas as materially influencing the genesis of the disorder. They might influence the development in so far as changes in modern belief influence the character of delusions. As Dr. Hirsch had suggested, it was impossible to protect these patients from all influences that might give rise to the condition. Not infrequently delusions of persecution developed in normal individuals in connection with hallucinatory conditions having a distinctly physical basis. He had recently seen such a case, a man with well systematized delusions on an alcoholic basis, derived largely from tactile disturbances, which proved to arise from the paresthesiæ of a very mild alcoholic neuritis.

Dr. L. Pierce Clark was of the opinion that the cases cited by Dr. Hoch might be called paranoid states rather than typical or true paranoia. The therapeutic suggestions outlined would be of undoubted value in these paranoid states. During the past three years he had been treating several cases by analyses and talks and the method had been very advantageous. He thought the method was of little use in true paranoia as the mental state was too fixed; his experience in asylum service had proved this fact to his entire satisfaction.



Dr. Swepson J. Brooks, of Harrison, N. Y., was very glad to know of the success Dr. Hoch had had with therapeutic talks. He had tried this plan and found it productive of results in many cases, but the patients would relapse into the old condition after being released from institutions. He presumed that Dr. Hoch had reference in his paper to simple paranoid states. The question of paranoia was a hard one to go into, and sometimes one almost concluded that paranoia and paranoid states were the same, only differing in degree. The forcing of patients to do things, as suggested by Dr. Hoch, was often neglected. He had in mind two cases in which it certainly had a very salutary effect. One case was a woman, forty-five years of age, who had delusions of persecution. She was put in a very quiet hall. She complained that she was merely brought to the place to be put in jail, that there were no sick people there, and that she would like to see some sick people. She was allowed to see some sick patients; the next morning she was convinced, and she got well. That was four years ago and she had remained well since. The other case was of the manic-depressive type. The patient confessed after her recovery that her family physician had had to force her to take medicine, that he would stand her up against the wall and knock her head against it if she did not take the medicine, and that she believed his method did good.

Dr. Smith Ely Jelliffe said that Dr. Hoch's paper had offered glimpses into a large and but partly explored territory. To him four different trends of thought were suggested, all of which were the subjects of much investigation. In the first place, the importance of the study of the mental development of the child was emphasized. The work of Weygandt, on "Abnormal Children"; of Koch, on "Pathological Inferiority"; of Hall, in his masterly work on "Adolescence"; and of Sommer, on "Character and Personality," were instances in point as to the activity of these lines of investigation. As to the psychogenic origin of certain types of delusions, Dr. Jelliffe was in accord with Dr. Hoch. He spoke of the help that might come from the literary side, as evidenced by the stories of Henry James, "The Turning of the Screw," and the "Two Magics"; Weir Mitchell's "Constance Trescott"; and Ansty's "Statement of Stella Maberly." In all these this type of delusion formation is beautifully brought out, with great literary

charm, if not with scientific pedantry. Therapeutically, he deemed Dr. Hoch's paper as stimulating, and he himself regarded certain phases of the subject with optimism. Paranoia, he said, was too large a term to use in a general blanket manner. While it is true that little can be accomplished by the most tactful of psychotherapeutic conversations in chronic lunatics who have been in the asylums for years, yet the important factor in the whole problem is to recognize the beginning stages, before the delusional ideas have become too firmly crystallized. Greater success had not been attained because the psychogenic origin of many delusional states had not been sufficiently understood. It required a rare tact to work on these patients, and the outlines given by Dubois, Dejerine, and Oppenheim were but the beginnings of a scientific psychotherapy which for sometime had been grasped at by pseudo-scientists. Dr. Jelliffe desired to rank himself with those who saw a hopeful outlook for the amelioration, if not cure, of certain cases of dementia precox, and of the paranoid states, by early and intelligent psychotherapy.

Dr. George H. Kirby had been interested of late in the management of paranoiac states along the lines suggested by Dr. Hoch, and thought that much could be accomplished in this way toward the correction of morbid trends. Dr. Hoch's work was particularly important in regard to the study of delusions in general. Such a method of analysis opened the way to an understanding of certain mechanisms which heretofore had been practically inaccessible.

Dr. Hoch, in closing the discussion, stated once more that what he wished to bring out was the fact that certain paranoiac states were produced by purely mental causes, i. e., by conflicts and unhygienic ways of dealing with them, and that they were more or less amenable to treatment early in the course, but that naturally he did not mean to claim that old cases of paranoia could thus be influenced. It was necessary in order to help such cases that one could still get at the root of things and explain to the patient the genesis of his delusions and train him to healthy mental habits. The criticism that his cases were not cases of typical paranoia, he could not quite understand, because he was unable to see where the line could be drawn between cases such as his and cases of so-called typical paranoia. Again, to say that paranoia was caused

by heredity was an exceedingly unsatisfactory way of stating the situation because it did not mean enough. He had claimed that some paranoiac states were due to an unhealthy dealing with conflicts. Such an unhealthy dealing may be due to tendencies which were more or less inherited, but it was time to make an attempt at determining what these tendencies were, because the mere statement of heredity was absolutely barren, that the same may be said about the statement which has been made that paranoia was due to a congenital mal-arrangement. If Dr. Hirsch said that a normal individual would not develop paranoia, this was doubtless true, if, by normal individual was meant one who had perfectly healthy mental habits.

STATED MEETING, MAY 1, 1907.

The President, Dr. Adolf Meyer, in the Chair.

"Recommendations Concerning the Improvement of Medico-Legal Methods." Dr. Pearce Bailey, of New York City, read this paper. It was not difficult to point out glaring defects in our Code of Criminal Procedure, judged by the standards of modern psychiatry, but legal, judicial, and even medical obstacles stood in the way of remedying these defects. Any change from existing conditions would be possible only after a severe and prolonged contest by concerted forces. The fundamental error in procedure in criminal lunacy cases was the test of responsibility, i. e., the knowledge of right and wrong as to the act at the time of its commission. This had been condemned by medical writers as being no test at all. Should the letter of the law be strictly observed, no lunatic could, under it, escape the full punishment for his offense, unless it could be shown that, at the time of the commission of the act, he suffered from distinct clouding of consciousness. Under this law, nevertheless, many murderers had been acquitted by reason of insanity. A loophole had been left in certain States—not New York—by adding the "uncontrollable impulse" clause. When this clause did not exist the fate of the prisoner depends upon the construction which the jury sees fit to place on the knowledge of right and wrong as mentioned in the law. The question would naturally arise why, if so unsatisfactory, this test had stood so long with so little variation. The reasons were evident. Defective as is the knowledge of right and

wrong as a test of responsibility, no better substitute had ever been offered. Another reason why this law had stood might be found in the fact that the matter is always in the hands of laymen to whom the science of psychiatry is practically unknown. This test would have to endure so long as the Code of Criminal Procedure remained what it is to-day, for the reason that this test is as good as any single test of insanity could be. Modern psychiatry demanded that this test be, not replaced by another, but be done away with altogether. No criminal procedure could be at harmony with modern views of mental disease as long as there was no middle course between responsibility and irresponsibility, and no means of judging between them except those furnished by the knowledge of right and wrong. Nothing had been more plainly taught by recent advances in psychiatry than that different mental states make different degrees of responsibility. No law which failed to take cognizance of this fact could be satisfactory to alienists. Before undertaking any legislation in the line of amending the Code of Criminal Procedure, the society should bend its energies toward the passage of a law which emanated from the society and which was in the hands of the committee at Albany. This law, if passed, would do away with many of the present evils of court procedure. It was suggested that the model plan for procedure in criminal cases would be that the question of lunacy be referred by the court to a committee of three, two members at least of which should be medical men. These men should have been certified as to their moral character and should have passed an examination as to their qualifications to pronounce on the mental conditions. There should be several such experts appointed in every judicial district.

The commission thus appointed should examine into the mental state of the prisoner and report to the court. They should determine the degree of responsibility, that is, they should determine the character of the mental disease, if any, from which the defendant was suffering, and report in accordance therewith that he was fully responsible, partially responsible, or irresponsible. Partial responsibility in capital cases should be sufficient to remit the death sentence, but no one who had committed murder and who was acquitted on the ground of partial responsibility should be restored to liberty under ten years. In other felonies the cases

of partial responsibility should have the shorter sentence optional with the judge. The report of the committee should be handed to the court and become part of the evidence, and should be the only medical expert evidence.

Dr. William Hirsch, of New York City, was of the opinion that no law, however good, would remedy the present condition of affairs so long as we have not to deal with honest men. If it be possible for corruption or any kind of dishonesty to enter legal procedures, then the best law could not be carried out in an ideal way. On the other hand, laws, no matter how defective, could be so handled that they would answer the purposes of humanity and truth if we have to deal with honest men. This society should direct its attention to its own profession and endeavor to raise the standard of expert testimony to such a point that dishonesty and incapacity would not be brought to bear in criminal procedures.

Dr. William Mabon, of New York City, thought the present law unsatisfactory, but so many questions were involved that it would be difficult to formulate anything that would improve conditions as they exist. He advocated referring the matter to a committee who should investigate conditions not only in this country but abroad. Nothing could be accomplished until the legal profession could be brought into closer touch with the medical profession.

Dr. A. R. Dieffendorf, of Middletown, Conn., asked Dr. Bailey to state, in closing the discussion, just what standards physicians would have for determining the degree of responsibility. He believed that neither the legal profession nor the community would permit a commission of alienists to pass upon that matter without knowing the rules which the physicians applied. He asked further if Dr. Bailey, in looking up the matter, had been able to determine how the criminal procedure in Great Britain had brought about the remarkable condition to which he referred, viz., that there were just as many men found not guilty of first degree murder on account of insanity as were found guilty and hung.

Dr. L. Pierce Clark, of New York City, was heartily in accord with the suggestions made by Dr. Bailey, and favored the appointment of a committee to study the matter very thoroughly. The law in the main was far better than that which is in force at the present time, but a proper statute could be worked out only after careful study from a legal as well as from a medical viewpoint.



Dr. William L. Russell, of Poughkeepsie, N. Y., was, on the whole, in accord with the suggestions presented in the paper and believed that a committee might, by prolonged study and the presentation of preliminary reports, bring out a discussion of the whole matter that would be very helpful. He referred to the committee appointed two or three years ago by the American Medico-Psychological Association to confer with the American Bar Association, and thought it would be well for the committee under consideration to confer with this and other similar committees. A special procedure might be instituted to determine the advisability of detaining those who have committed murder or homicide and who have been acquitted on the ground of partial responsibility.

Dr. August Hoch, of White Plains, N. Y., said it was not so much a question of making, or urging the making of a different law in regard to the matter of responsibility, as it was of urging that a better basis be furnished for forming a medical opinion. In most cases experts would not differ so much about a given case if all had the same facts, and enough facts. The divergence of opinion arose because, in many instances, the experts were working with an utterly insufficient knowledge of the case, so insufficient, very often, that in everyday practice no conscientious psychiatrist would think of forming an opinion upon it.

Dr. Allan McLane Hamilton, of New York City, thought there should be some *rapprochement* between the medical and legal professions, and to this end suggested that a committee be appointed to confer with the Appellate Division of the Supreme Court with reference to the question in hand. Dr. Bailey had been misinformed concerning English laws. In the question of murder the facts were left to the jury, which enquired into the matter, the question of insanity coming up later. Expert witnesses were not objected to, but the final decision was left to some representative of the Crown. He agreed with Dr. Bailey concerning the ten years' confinement of individuals acquitted of murder on the ground of partial responsibility. In disputed cases, however, the time of confinement need not necessarily be ten years.

Dr. Charles L. Dana, of New York City, did not take quite so pessimistic a view of the matter as did Dr. MacDonald. The committee, if appointed, should confer with prominent judges and

lawyers, particularly criminal lawyers. The question of partial responsibility was an important one, and if all alienists would accept the idea that there is such a thing as partial responsibility it would have its effect upon the method of procedure. It would be useful for the committee to undertake work along the line of devising a test for insanity which might be accepted by the legal profession.

Dr. Adolph Meyer, of New York City, said that in practically all European countries partial responsibility had been recognized in some form. The question was whether this could be so formulated as to be satisfactory to the community, for after all our laws were not absolutely bad. There had been heretofore too much expression of mere opinion on the part of alienists without enough attention paid to the determination of the actual facts. The relative looseness in the determination of facts and the too liberal acceptance of hypothetical questions on the part of physicians had led to the unfavorable impression existing to-day. It was extremely difficult to form an idea as to what should be considered sufficient facts to justify an expert in giving an opinion. Adequate observation of the persons should be in some manner invited if not enforced, and alienists should raise among themselves the standard as to what facts are necessary to justify an opinion. It was the work of the physician to determine, whether the individual had any mental disorder, and whether this disorder had anything to do with the commission of the act. The question of responsibility should be decided by the physician.

Dr. Pearce Bailey, of New York City, in closing the discussion, said the question of responsibility should be referred to medical men, but they would have no authority more than communicating their findings to the jury. While it might be impossible to change the present procedure, yet it was well enough to look into the matter to see what could be done.

## Notes and Comment.

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THE WASHINGTON MEETING OF THE ASSOCIATION.—The sixty-third annual meeting of the American Medico-Psychological Association, at Washington, with its adjourned sessions at Jamestown, Va., was, both as to interest and attendance, a satisfactory one.

Held in conjunction with the other large special associations forming the Triennial Congress of American Physicians and Surgeons, it gave those in attendance at the meeting an opportunity to learn what was being done in other departments of medical science, and at the same time permitted the medical men in affiliation with other organizations, and interested in other departments of medical investigation and work to gather some knowledge of the importance and broad scope of psychiatric medicine.

The programme was too long to be carried out, and unfortunately many papers were merely read by title. The topics put down for discussion, and the gentlemen selected to lead the discussions were well chosen, and awakened much interest—but unfortunately not a very active debate. This lack of more general participation in the discussion of papers is a feature of our meetings which we in common with many others regret.

The reasons for this, and we believe also the remedy, are not far to seek.

Except for those experienced in polemical discussions, it is difficult from the reading of an ordinary paper to grasp the salient points with sufficient clearness and sequence to warrant one engaging in a discussion thereof. If the programme committee would announce that no paper would be considered, or put upon the programme for a meeting of the Association unless an abstract thereof, sufficiently complete to give the reader a conception of the argument and conclusions of the writer, was furnished the Committee, for distribution among the members of the Association at least two months in advance of the meeting, these difficulties would be met. A regulation of this kind would also

have another beneficial result, in that it would exclude from the programme those hastily written papers, which are occasionally presented, opening with the stereotyped excuse, "this paper has been undertaken under stress of so many distracting duties, and so hastily put together that the author feels that he must apologize for its many evident defects."

It would not seem to be a difficult task, nor one involving material expense to institute a plan such as we have suggested. The abstracts should form part of the programme to be used at the annual meetings, but should also be sent to each member six weeks or at least a month in advance of the session. The papers read at an annual meeting, all of them, deserve a better reception and more general discussion than they receive. While upon this point we would like to point out that discussion of a paper does not by any means necessitate an agreement with any or all of its conclusions or arguments. We would like to see at our meetings an imitation of that full, free, and critical debate which characterizes the sessions, particularly of many foreign societies, and which is productive not only of increased interest in the sessions, but of more carefully prepared papers.

In a body of scientific gentlemen, critical discussion should be welcomed and can be and is carried on without acrimony or the production of any ill feelings.

The address of the President emphasized the necessity for more and better clinical work and was well received. The JOURNAL came in for a little more than its usual share of attention but the suggestion that it be turned over to the tender mercies and commercial exploitation of a publishing house did not receive any favorable comment.

Suggestions looking toward its more frequent publication, which have now been made to the Association at two meetings, were referred to the Editorial Board and the incoming officers.

The selection of Dr. Bancroft as President places in the chair a gentleman who well deserves the honor, and who will occupy it to his own and the Association's credit.

CONGRESS OF ALIENISTS AND NEUROLOGISTS AT GENEVA AND LAUSANNE.—The Seventeenth Congress of Alienists and Neurologists of French-speaking Countries will be held at Geneva and Lausanne August 1 to 7.

The opening session will be held at Geneva August 1. A discussion will be held upon Medico-legal Experts and Questions of Responsibility, to be opened by a report by M. Gilbert Ballet. On the second day M. Antheaume will open the discussion on Periodic Psychoses. The remaining two days of the Geneva session will be given up to discussions of general subjects not definitely announced, visits to bathing establishments, hospitals, and asylums, and social functions. On August 5 the session will open at Lausanne when MM. Claude and Schnyder will open a discussion on the Nature and Definition of Hysteria.

The remaining days at Lausanne will be given up to inspections of neighboring institutions, excursions, a dinner, and receptions.

HEADS OF FAMILIES OF THE FIRST U. S. CENSUS.—Many of our readers will welcome the announcement made by Mr. S. N. D. North, Director of the Census, of the publication of the names of heads of families as shown by the census of 1790.

From the circular issued by the Census Bureau we take the following:—

"Congress recently authorized the Director of the Census to publish during the present fiscal year the names of heads of families and accompanying information, shown on such schedules of the Census of 1790 as are in existence. Unfortunately the appropriation for the Bureau does not permit the publication of this information for all the states the schedules for which are still in existence, but the returns for the states of New Hampshire, Vermont, and Maryland are now in press and will be issued as parts, or pamphlets. Each of these parts will form an attractive publication consisting of about 150 pages, fully indexed, printed upon laid antique paper, sewed, and bound in especially handsome and durable semipamphlet binding. Each part will contain as a frontispiece a map of the state represented, 11 by 17 inches in size, reproduced by lithography from an atlas published in 1796.

"In accordance with the law these pamphlets are offered for sale by the Director of the Census, and the price has been set at \$1 each."



## Book Reviews.

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*Department of Neurology, Harvard Medical School.* Contributions from the Massachusetts General Hospital, the Boston City Hospital, the Long Island Hospital, and the Neurological Laboratory. (Boston, 1907.)

In this attractive volume are gathered reprints of articles by the neurological staff of the Harvard Medical School which appeared during the year 1906. The original publication of the nine papers collected here has been in the *Journal of Abnormal Psychology*, the *Journal of Nervous and Mental Diseases*, and the *Boston Medical and Surgical Journal*. The authors are: J. J. Putnam, P. C. Knapp, G. A. Waterman, E. W. Taylor, and G. L. Walton, and to one knowing the excellence of the work of these men it were almost superfluous to say that the present papers are quite up to their several standards. Possibly to the psychiatrist the most interesting paper would be one by P. C. Knapp upon the Mental Symptoms of Cerebral Tumor, which is a most careful study, but it is difficult to single out any one which will better repay perusal than the others.

W. R. D.

*Transactions of the College of Physicians of Philadelphia.* Third Series, Vol. XXVIII. (Philadelphia: Printed for the College, 1906.)

This volume quite comes up to the excellence of contents and mechanical details which have made this series noteworthy. In addition to the President's Address, List of Members, etc., there are 23 papers upon various subjects connected with medicine, surgery, and neurology. In the latter group are: Cerebral Decompression—Palliative Operations in the Treatment of Tumors of the Brain, by Wm. G. Spiller and Charles H. Frazier; Is Neuralgia a Functional Disease? A Study Based upon the Pathological Findings of Eight Cases, by Alfred Gordon; and Cases Allied to Amaurotic Family Idiocy, Apropos of Two Patients, One of Whom Presents Among Other Stigmata Polydactylism of the Four Extremities, by the same. All of these are of considerable interest, and the majority of the other papers will repay perusal.

W. R. D.

*Textbook of Psychiatry. A Psychological Study of Insanity for Practitioners and Students.* By DR. E. MENDEL. Authorized translation, edited and enlarged by WILLIAM C. KRAUSS, M. D. (Philadelphia: F. A. Davis Co., 1907.)

This book will probably meet with considerable success, and deservedly so because it is a good one. Dr. Mendel has been too long a teacher to

put forth a work which does not have many points of excellence. The greatest of these is brevity, and this is also the greatest defect, for while the book may be useful to the student who is in the hands of a good teacher who has plenty of clinical material upon which to point out the multitude of symptoms of which Dr. Mendel speaks, and who is able to show the relationship that mental symptoms bear to one another in particular cases; in the hands of a student who has not such a teacher the book must prove confusing because he first learns of a vast number of isolated symptoms before he learns of particular diseases in which they may occur.

The grouping of mental diseases is rather unsatisfactory to those who are accustomed to that of Kraepelin, as it does not appear quite so exact, and there is a tendency now and then to run one group into another which may be confusing at times. Fortunately, however, these instances are rare. The term *dementia præcox* is limited to a rapidly occurring dementia which is only found in young people, a limitation which is not generally accepted at the present time. As is well known, Mendel has made a special grouping of paranoia, which, while interesting, we believe is not justified, and many of the varieties are more properly placed elsewhere. His grouping is as follows:

- (a) Rudimentary paranoia.
- (b) Typical paranoia.
  - 1. Acute simple paranoia.
  - 2. Chronic simple paranoia.
  - 3. Acute hallucinatory paranoia.
  - 4. Chronic hallucinatory paranoia.

Varieties:

- 1. Hypochondric.
- 2. Primitive.
- 3. Paranoid melancholia.
- 4. Paranoid dementia.
- 5. Katatonic.
- 6. Periodical.

In treatment many dangerous procedures are advocated. For example: Mendel recommends the administration of bromide of potash in doses of 8 to 10 grams daily in cases of periodical mania. With such treatment it is not to be wondered that cases of mania may end in terminal dementia. The free use of the bromides is advocated throughout the book. Duboisin and morphia are also used as hypnotics. There are so many better methods of securing sleep than by the use of these two drugs that it seems a pity that they should be mentioned in this connection.

As a rule the translation has been well done and the additions even better, but now and then a crude expression jars the continuity of thought, and the following sentence (page 273) requires a knowledge of the subject for its proper understanding: "From this [demented form of paresis] it [arteriosclerotic psychosis] is distinguished by its later appearance, the

lack of the reflex rigidity of the pupils, of the paralytic disturbance, the development to a high degree of the arterio-sclerotic phenomena, in the full, bounding arteries, in the heart, the kidneys (arterio-sclerotic atrophied kidney), the moderate degree of weak-mindedness with much disturbed memory and a strong feeling of disease with the absence of clearly defined delusions, and the very slow, unprogressive course."

The supplementary guide for examination is well arranged.

W. R. D.

*Starr on Nervous Diseases.* Organic and Functional Nervous Diseases. By M. ALLEN STARR, M.D., PH.D., LL.D., Professor of Neurology in the College of Physicians and Surgeons, New York; ex-President of the American Neurological Association and of the New York Neurological Society. Second edition, thoroughly revised. Octavo, 824 pages, with 282 engravings and 26 full-page plates. (Philadelphia and New York: Lea Brothers & Co., 1907.)

American neurologists will welcome the appearance of the new and thoroughly revised edition of this important work on organic and functional nervous diseases. The book has been brought up to date and much new material has been added.

In the first edition the work was limited to organic nervous diseases, but in the present volume the whole field of neurology is covered, the last hundred pages being devoted to the main types of functional nervous diseases, including chorea, epilepsy, paralysis agitans, neurasthenia, hysteria, and migraine.

The presentation is everywhere clear and concise, so clear and concise at times that the sensitive critic might complain almost of dogmatic statement, but this is probably a good fault in a book which is intended for the average medical student and the general practitioner.

As might have been expected from the author's special experience and from the original contributions he has made in neurology, two sections of the volume stand out with prominence, one the section dealing with multiple neuritis and the other that discussing cerebral tumors. Dr. Starr has done his colleagues in the profession a great service by giving them the benefit of his rich store of observation in these two fields.

There may be some who will quarrel with the mode of classification of nervous diseases adopted in the book. In the first place, the tendency is growing to do away with the conception of functional disease as contrasted with organic disease, and yet the distinction must be regarded in the present state of our knowledge as still a helpful one. Again, since histological studies have shown the inadequacy of the division of the nervous system on gross anatomical lines into spinal cord, cerebellum, cerebrum, etc., there are others who feel that a classification of diseases upon this gross anatomical basis is objectionable; any classification, however, on an anatomical or histological basis has its own drawbacks, and if one attempts a neuronal classification he will find almost as many difficulties in arranging his materials as when he divides his maladies under the cap-

tions followed in the work before us. Classifications after all are mere conveniences for pigeon-holing ideas, and each writer does well to use the kind of pigeon-hole which best agrees with his training and experience.

There are some 282 engravings in the text of the volume, and 26 plates in colors and monochrome; these are very helpful to readers of the book. The volume may be warmly recommended to physicians and students as representative of the better American clinical neurology.

L. F. B.

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L. F. B.

## Abstracts and Extracts.

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*The Diagnostic Value of Lumbar Puncture in Psychiatry.* By J. L. POMEROY. *Journal of Nervous and Mental Disease*, Vol. 34, pp. 225 and 312, April and May, 1907.

This is an extremely interesting and careful study and gives the results of a year's observation made upon doubtful cases at the Manhattan State Hospital.

The technique used was that of Widal and Ravaut. In all, 131 cases were observed, a number of whom it was possible to observe over a considerable period. The paper is well worth perusal, but the author's conclusions follow:

1. Patients should not be punctured unless they can be put to bed.
2. To be of definite value the puncture must be repeated two or more times, at an interval of at least ten days.
3. A constant negative finding is of more value than a positive one, for it rules out the presence of brain syphilis and parasyphilitic conditions.
4. In general paralysis the lymphocytosis is a constant and early sign and is usually associated with a heightened albumin content. The same can be said for tabes.
5. Lymphocytosis may occur in secondary and tertiary syphilis without clinical evidences of involvement of the nervous system, also it may occur in patients who give evidences from scars or other signs of old syphilitic infection. As a rule the cellular increase in such cases is far behind that observed in paresis and there is very slight albumin increase. Where inflammatory brain syphilis exists albumin increase may also appear.
6. In arteriosclerotic insanity a positive finding points to a syphilitic process, such as softened foci following specific arterial disease. In brain tumors a negative finding is the rule. If a positive finding occurs, a syphilitic basis for the process can be taken for granted.
7. Epilepsy shows negative findings; if otherwise the suspicion of brain syphilis is justified.
8. Alcoholism in all its varieties gives negative results, if the finding is positive and there are no signs of nervous involvement an old syphilitic infection is to be taken for granted. Where symptoms of involvement of the nervous system are present general paralysis or brain syphilis is to be suspected. It is questionable in some cases even when symptoms of involvement of the nervous system are not present, in a positive finding with albumin increase, whether we are not dealing with an early paresis.
9. A differential diagnosis is to be made between brain abscess and meningitis by the presence in the latter of increased cellular material.

10. It cannot be enough emphasized that the lymphocytosis presents a singular disease sign, and only after consideration of all other clinical symptoms of the disease, should it be used to construe the case. When the findings are considered with due care to the possibilities, the results obtained from lumbar puncture are an important and oftentimes an invaluable aid to the diagnosis of obscure nervous and mental diseases. It is of especial importance in differentiating alcoholism, general paralysis, dementia præcox, epilepsy, brain tumor, and finally brain syphilis. With the advancement of our knowledge of the occurrences of lymphocytosis in syphilis of tissues other than the nervous system, with further autopsy reports, and improvement in technique, we can look forward to the solution of many, at present, doubtful phases of the subject.

W. R. D.

*Operative Treatment of Traumatic Psychosis.* By BERNARD HOLLANDER. The Lancet, Vol. CLXXII, p. 657, March 9, 1907; also Medical Press & Circular, Vol. LXXXIII, p. 419, April 17, 1907.

This is a brief abstract of an interesting case of mental symptoms followed trauma of the head.

In 1898, a man received a kick from a horse on the right side of the chin, followed by severe frontal headache and neuralgic pains. A year later he had a heavy fall from his cycle on the right side of his head, which while leaving no visible sign of injury, was followed by hemiparesis of great severity, preventing any intellectual work and causing the patient to become emotional, anxious, and depressed; he developed suicidal ideas and self-accusation. Later he grew suspicious, easily offended, irritable and profane, erotic and subject to uncontrollable fits of sexual excess. He also suffered from obstinate constipation and had sensory disturbances in the left arm as well as persistent insomnia.

In the spring of 1905, he had symptoms of word blindness and a transient attack of paralysis of the right side of the face and left half of the body.

The author from the above symptoms concluded that the disease was originally limited to the neighborhood of the supermarginal and angular gyri and that it had subsequently spread over the posterior temporal area.

On October 9, 1905, trephining was performed and the bone over the angular gyrus was found thickened and hardened, with scarcely any diploe and the dura mater was adherent to it. When the bone was removed the dura mater bulged into the opening, but showed no signs of pulsation, although the pulse of the patient at the time was quite strong. On cross incision of the dura mater a stream of clear fluid escaped. The membrane was opaque and thickened, but the brain appeared normal, and on examination the neighboring parts revealed no pathological changes. A drainage tube was kept in the scalp wound for three weeks and during this period the patient had occasional attacks of depression and irritability, headache and trigeminal neuralgia, but with the closing of the wound all symptoms disappeared. Patient last reported himself, February 20, 1907, and even the symptom of obstinate constipation had disappeared.

W. R. D.

*The Function of the Prefrontal Lobes.* By ALFRED GORDON. Journal of the American Medical Association, Vol. XLVIII, p. 1421, April 27, 1907.

The author here reports briefly the clinical symptoms, including mental phenomena, and pathologic findings in the case of a man who died as the result of a hemorrhage into the white substance of the left prefrontal lobe.

The possibility of the prefrontal region being the site of the higher psychic functions is suggested, and the work of Phelps, Welt, Bianchi, Flechsig, Jastrowitch, and Oppenheim is mentioned.

The emotional state of the patient is spoken of, it being one of *Euphoria* and the analogous symptom *Witzelsucht* having been observed by several German writers, lends to it additional interest. The other symptoms of psychiatric interest in the case were: Early confusion, later partial disorientation with motor restlessness and outbreaks of violence, but the above mentioned affect coloring of the psychic reaction was the most conspicuous feature in the case. FITZGERALD.

*Is Eyestrain Ever an Etiologic Factor in Epilepsy?* By H. O. REIK. Journal of the American Medical Association, Vol. XLVIII, p. 1501, May 4, 1907.

In this article Reik reports several cases in which eyestrain appeared to be the causative factor in the production of epilepsy, and cases in which the correction of refractive errors led to a relief of the condition. Spratling's assertion that he was "unable to recall a case of epilepsy in all my experience in which I felt that defective ocular conditions alone caused the disease," is called to account and the author feels that the cases reported by thoroughly competent ophthalmologists where epilepsy has been either cured or greatly modified in its severity by the use of satisfactory lenses, must be taken as a sufficient guarantee that eyestrain is an etiologic factor of undoubted importance. The writer's consideration of this debated question is eminently exact and scientific, and though only a brief paper, merits consideration at the hands of every student searching about for the cause of epilepsy in his patient. FITZGERALD.

*Occupation in the Treatment of the Insane.* By THOMAS J. MOHER. Journal of the American Medical Association, Vol. XLVIII, p. 1664, May 18, 1907.

This article read by Moher in the psychological section of the British Medical Association at the last annual meeting, deals briefly with occupation as a curative agent in the treatment of the psychoses.

He advocates work for nearly all cases except paretics in the stage of exaltation, cases in early stages of maniacal excitement, and those physically unfit. As a rule, it is thought advisable to so arrange that the patient's remedial occupation may not be the same as the one by which he obtains a livelihood; it is noted, however, that some cases show interest only in an occupation with which they are familiar. The early use of oc-

cupation in deteriorating psychoses is wisely advocated, and the additional value of sunshine and fresh air in combination with work is touched on. Careful medical supervision is naturally insisted on and care in the selection of the quality and quantity of work required of the patient is of considerable import. The question is one of extreme interest especially in the chronic asylums, and although the author suggests nothing that is difficult to carry out it seems that the scientific value of this method of therapy would be greater if it were worked out on more exact lines the nature and progress of a psychosis being indicated, and the minute details of the improvement in the mental condition being noted.

FITZGERALD.

*Sopra alcune varietà della demenza precoce.* Del Prof. SANTE DE SANCTIS.  
Rivista Sperimentale di Freniatria, Vol. XXXII, p. 141.

The author first briefly discusses the somewhat varying views held by Kraepelin, and by English, French, Italian, and American writers. He then gives a discussion of certain cases in his experience from which he elaborates three forms of dementia præcox which have not hitherto been proposed. In the first place he states that he has been interested in the relationship existing between dementia præcox and congenital weak-mindedness (phrenasthenia). He reviews certain opinions expressed by older writers, and asks: 1, if dementia præcox may occur in phrenasthenics? and, 2, if there is a prepuberal dementia præcox, may it not be properly called dementia præcocissima? He then discusses the occurrence of dementia præcox in the fourth and fifth decennium of life, and proposes the following questions for discussion:

1. Is there a *dementia præcox subsequens* or *comitans*, following or complicating phrenasthenia?

3. Is there a *dementia præcocissima* (of children)?

3. Is there a *dementia præcox retardata* (occurring in middle life)?

4. Has dementia præcox in the forms *subsequens* or *comitans* and *retardata*, any premonitory signs in the evolutionary period of life.

Dementia præcox *subsequens* or *comitans* is first taken up for discussion and De Sanctis makes the following statements concerning cases which he has personally observed:

a. Dementia præcox *subsequens* or *comitans*, a form fairly frequent occurs more often in females than in males. In the author's six cases, four were females.

b. These six cases occurred between 12 and 20 years.

c. The immediate causes are apparently, in one case a febrile disease, in another overwork, in two intense emotion, and in the other two cases unknown.

d. In the six cases, in one alone was there marked phrenasthenia in the ancestry, and in four there was a moderate degree of mental weakness. One of the patients was of sufficient mental capability to learn by special pedagogic methods to read and write, and even acquire the elements of a foreign language. The other five were able to pass through the first three



elementary classes after a varying period of years. In all the mental insufficiency was quite marked.

e. All of the cases belonged to the aparetic form of phrenasthenia, but in two cases observed by the author elsewhere the mental insufficiency was accompanied by epileptic attacks.

f. The symptoms are in order of frequency as follows: Capriciousness and change in character, apathy, depression, scrupulosity, negativism, hallucinations, restlessness. In only one of the six cases were catatonic symptoms present.

g. Usually in phrenasthenics with dementia præcox the intellectual deterioration begins during the eleventh or twelfth year, and becomes progressively worse, so that it is necessary to discontinue pedagogic treatment. In the most severe cases the characteristics are those of the hebephrenic or paranoid forms, though the majority of cases may be classified as simple dementia.

An abstract of a typical case is given, and the author proceeds to a discussion of *dementia præcoccissima*, first citing a number of authors who have admitted the possibility of dementia præcox occurring sometime before the puberal period. He then gives abstracts of a typical and of a doubtful case and proceeds to a discussion of *dementia præcox retardata* in which he holds that the initial symptoms occur after 40, during the climacteric, or even after 50 years of age. Numerous authorities are cited in proof of this statement and an abstract of a typical case is given.

In conclusion he discusses the question whether dementia præcox generally shows premonitory symptoms early in life, answering this in the affirmative.

W. R. D.

*Dementia Præcox.* By JOHN MACPHERSON. Review of Neurology and Psychiatry, Vol. V, p. 185, March, 1907.

The author briefly discusses the name and says: "It would perhaps be better for psychiatry in our own country if less attention were directed to the name, and a little more criticism devoted to the substance of the entity which Kraepelin has presented to us under the name of 'dementia præcox.'"

Having been "struck with the fact that among the many criticisms of Kraepelin's presentation there has been but scanty attempt to describe his main propositions in his own words," the author "resolved in the interest of clearness and fairness to present an epitome of the main facts upon which Kraepelin has founded his belief in this clinical entity. This has been done most successfully and to anyone desirous of reviewing these points recommendation of a perusal of this paper is made.

W. R. D.

*A Medico-legal Definition of Insanity.* By CLEMENT H. SERS. Medical Press and Circular, Vol. LXXXIII, p. 564, May 22, 1907.

The author calls attention to the fact that insanity is not the only word which has not an exact meaning to all minds and gives a number of ex-

amples in illustration. He refers to a previous communication in which he defined insanity "as a morbid condition of mind requiring supervision," and which he would now amend to read "as a morbid condition of mind subject to legal intervention," concluding with arguments to show its adequacy.

W. R. D.

*Constipation et Troubles Mentaux.* Par Dr. PERPERE. Progrès Médical Tome XXIII, p. 98, 16 Février, 1907.

Constipation is a constant symptom of a number of the psychopathies and usually complicates the clinical picture. In epilepsy it increases the number of convulsions, and it is imperative to prevent constipation in caring for these cases. In hysteria cases have been reported who have not had an evacuation for two or three months. It is frequent in alcoholic and melancholiacs. It may be said that the constipated paretic is a candidate for a convulsion. In hypochondriacs the presence of feces in the digestive tract may give rise to delusions of animals, etc. The psychic cause of constipation as elaborated by Dubois cannot be ignored, but it cannot be said to apply to all cases. As a cause of auto-intoxication constipation is well recognized and is frequently seen in typhoid fever. A case reported by the author would give basis to the belief that the cause of Korsakoff's Syndrome is an intestinal intoxication. An abstract of this case is given and a resumé of the symptoms presented is given as follows: Profound confusion with many transitory delusions, visual, and auditory hallucinations, motor agitation, anxiety and sudden seizures. The patient was so much constipated that the abdomen was greatly distended, and after free purgation the mental symptoms were much less marked.

W. R. D.

*L'hérédité dans l'hémorragie cérébrale.* Par PAUL RAYMOND. Le Progrès Médical, Tome XXIII, p. 197.

In this brief note after a number of quotations and comment, the author presents the following interesting table:

J. P. Bar . . . Died at 36 of cerebral hemorrhage following a fall in a pond.		M. Bar . . . No information on the cause of death; no other information on the heredity of these three brothers, who lived nearly 100 years ago.		X. Bar . . . No information on the cause of death.	
J. Bar . . . 1 attack at 52, 2 " " 59.		Françoise Bar . . . 1 attack at 51, 2 " " and death at 57.		M. Bar . . . Daughter; 3 years has had hemiplegia. 57 years.	
Marie Bar . . .; Jean; Hemiplegia at 39½.		Josephine L.; Emmanuel L.; 1 attack at 49, 2 " " and death at 56.		J. B. Bar . . . Died at 49 yrs. of cerebral hemorrhage.	

W. R. D.

*Etude statistique sur les formes cliniques de la Paralyse Générale.* Par P. SERIEUX et MAURICE DUCOSTÉ. *Le Progrès Médical.* Tome XXIII, p. 161, 16 Mars, 1907.

This paper begins with references to the forms of paresis differentiated by Bayle, Calmeil, J. Falret, Schüle, Kraepelin, Weygandt, Regis, and Lissauer. The authors state that paresis may occur in eight forms which may be pure or may be mixed. In 150 paretics observed at Ville-Evrard from 1898 to 1906, the forms were differentiated as follows:

Form.	Number.	Percentage.
Demential .....	36	24
Maniacal .....	9	6
Expansive .....	40	27
Depressive .....	3	2
With persecutory ideas.....	4	3
Circular .....	10	7
Hypochondriacal .....	11	7
Sensory .....	37	24
	150	100

Comment is made upon each of these forms and an occasional illustrative case is given. It is stated that the hallucinations of paretics may involve one sense or many, but among the isolated ones those of hearing are most frequent (26 per cent), then those of general sensation (14 per cent), and of sight (11 per cent). In 8 per cent all sensations were disturbed, and in 10 per cent hallucinations of hearing and of sight on the one hand, and of hearing and general sensation on the other, were concomitant. Seven of the 58 paretics who showed hallucinations had an alcoholic history, three of whom had hallucinations of hearing, one of general sensation, one of hearing and general sensation, one of hearing, general sensation and taste, and one of all senses.

W. R. D.

*To What Extent Can the Gynecologist Prevent and Cure Insanity in Women?* W. O. HENRY. *Journal of the American Medical Association*, Vol. XLVIII, p. 997, Mar. 23, 1907.

In this article Henry reviews the subject of gynecological procedure as agents in the prevention and cure of the psychoses, and states his own views on this much-discussed topic.

After quoting various authorities' definition of insanity, the author gives the results of the work of different gynecologists in the treatment of pelvic disorders in insane women. Summing these up, the writer is inclined to believe that in many cases the results obtained would have been much better had the operative measures been more thorough.

The author's own cases are then cited, 28 in number. Operations on 27 of these patients were done 9, 10, and 11 years ago. Sixteen cases made a perfect physical and mental recovery, one died soon after operation;

one was temporarily benefited; of the others the writer adds "none were made worse."

In conclusion the author gives it as his opinion "that the gynecologist can prevent the occurrence of insanity in many women with very unstable nervous organizations, if he will by treatment or operation remove all pelvic irritation, and that he may cure various forms of insanity in women if such irritation is entirely removed."

It might be mentioned that certain statistics which are used by this writer in support of his own sanguine view are not actually in accord with the fact, as several cases reported as cured by an observer quoted, are at the present time inmates of insane hospitals with prognoses that are distinctly unfavorable.

It would seem that all are agreed that insane women should have all local pelvic disorders treated when such exist, but that these measures *per se* cure or prevent insanity is not the opinion of such good observers as Dr. W. P. Manton, of Detroit, or Dr. Le Roy Broun, of the Manhattan State Hospital consulting staff, who took part in the discussion of the paper.

FITZGERALD.

## **Pamphlets Received.**

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The Atypical Child—Its Instincts and Moral Status. By Waldemar Heinrich Groszman. Reprint from Bulletin of American Academy of Medicine, April, 1907.

Is Sexual Perversion Insanity? By Harold N. Moyer. Reprint from Alienist and Neurologist, May, 1907.

Is Genius a Sport, a Neurosis, or a Child Potentiality Developed? By Jas. G. Kiernan. Reprint from Alienist and Neurologist, May, 1907.

The Tramp as a Social Morbidity. By Harriet C. B. Alexander. Reprint from Alienist and Neurologist, May, 1907.

The Bulletin of the University of Nebraska, April, 1907.

Thirteenth Annual Report of the Managers of the Gowanda State Homeopathic Hospital at Gowanda, N. Y., for the year ending September 30, 1906.

Fourteenth Annual Report of the State Charities Aid Association of New York.

Annual Report of St. Joseph's German Hospital of Baltimore, for the year 1906.

Twenty-ninth Annual Report of the Worcester Insane Asylum, for the year ending November 30, 1906.

Fifty-eighth Annual Report of the Central Indiana Hospital for Insane, for the year ending October 31, 1906.

Nineteenth Annual Report of the Southwestern Hospital of Virginia, for the fiscal year ending September 30, 1906.

Special Report by Groszmann School, Inc., on the Occasion of the Seventh Anniversary of the Groszmann School, April 1, 1907.

Official Reports of the Trustees and Officers, State Hospital (Danville, Penn.), from October 1, 1904, to September 30, 1906.

Ninth Biennial Report of the State Hospital, Ingleside, Neb., for the Biennial Period ending November 30, 1906.

Thirty-sixth Annual Report of the Managers of the Middletown State Homeopathic Hospital, for the year ending September 30, 1906.

Ninety-third Annual Report of the Trustees of the Massachusetts General Hospital, including the General Hospital, in Boston, the McLean Hospital and the Convalescent Home in Waverley, 1906.

Annual Report of Dr. D. Brochu, of Beauport Asylum, for the year 1905.

Eleventh Annual Report of the Macon Hospital, year ending December 31, 1906.

Thirty-sixth Annual Report of the Buffalo State Hospital, for the year ending September 30, 1906.



Twenty-eighth Annual Report of the Managers of the Binghamton State Hospital, for the year ending September 30, 1906.

Thirty-eighth Annual Report of the Board of Managers of the Willard State Hospital, year ending September 30, 1906.

Abstracts of a Year's Contribution to Internal Medicine, by G. W. McCaskey, from March 1, 1906 to March 1, 1907.

University of Oregon, Medical Department, Twenty-first Annual Announcement, 1907-1908.